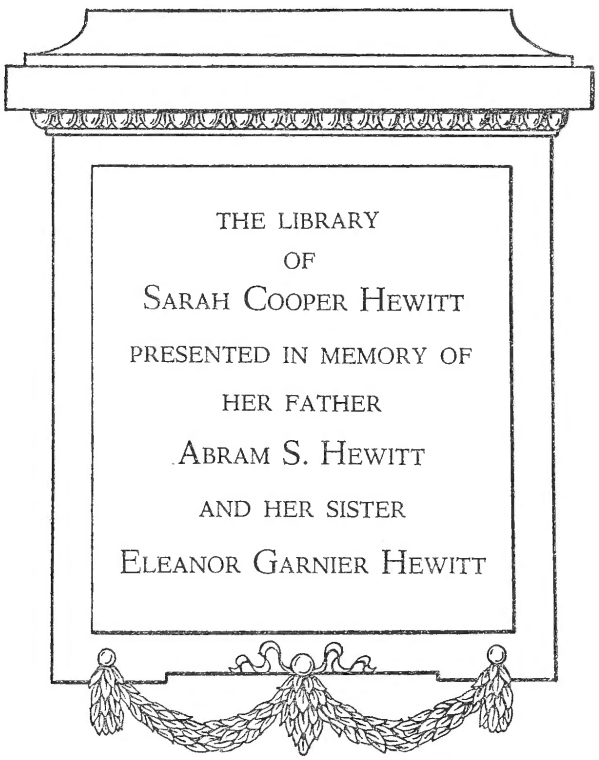

THE LIBRARY
OF
SARAH COOPER HEWITT
PRESENTED IN MEMORY OF
HER FATHER
ABRAM S. HEWITT
AND HER SISTER
ELEANOR GARNIER HEWITT

PAXTON'S FLOWER GARDEN.

NEUNER

PAXTON'S

FLOWER GARDEN.

BY

PROFESSOR LINDLEY

AND

SIR JOSEPH PAXTON.

REVISED BY

THOMAS BAINES, F.R.H.S.

WITH COLOURED PLATES.

VOL. II.

CASSELL & COMPANY, LIMITED:

LONDON, PARIS & NEW YORK.

1883.

[PLATE 37.]

BOUVARDIA ALFRED NEUNER.

A Beautiful Greenhouse Flowering Shrub, of Garden Origin, belonging to the Natural Order CINCHONACEÆ.

THE plant here figured is a beautiful pure white sport from one of the now tolerably numerous varieties of Bouvardia, than which there are few more charming occupants of our greenhouses, or that play a more conspicuous part in the production of flowers in winter where means exist for obtaining sufficient warmth to enable them to open freely. The subject of our illustration is of American origin, having been raised in the establishment of Messrs. Nanz and Neuner, Louisville, Kentucky. The sporting in cultivated plants is mostly confined to a change of colour in the flowers, or of variegation in the leaves; but sometimes, as in the present case, it consists in the multiplication of the parts of the flower, the petals being multiplied in number so as to form a rosette, consisting of three or more rows, in place of the one ordinarily existent. This disposition to double is simply an exuberance of growth resulting from high cultivation, but which more usually shows itself in seedlings that produce double flowers. It must be confessed that in double flowers there is an absence of the elegance that exists in the single or natural state; but, from the cultivator's point of view, double flowers possess an advantage in lasting, as they mostly do, much longer than the single forms.

The merits of Bouvardias generally as decorative flowering plants are now being fully realised, their compact habit of growth particularly adapting them for pot culture; their disposition to keep on giving flowers in succession is such, that almost every bit of growth made produces bloom; added to which, form, fragrance, and purity of colour combine to make them especially deserving of being grown. Neither must it be forgotten that, by a judicious selection of varieties that will, with the aid of warmth, bloom in the winter season, a continuous succession of flowers may be had all the year round. Their flowers are particularly well adapted for use in bouquets, and other floral arrangements. Their cultivation is by no means difficult, but to grow young plants up to a useful size for blooming in winter, they should be struck early in the year. At one time they were mainly

propagated from root cuttings, the young shoots, when treated in the usual way, not striking well, in a great measure owing to their being almost always in the condition known to cultivators as flowering wood. The cuttings are best struck in January or February, and to prepare the plants for the production of these, in October they should be gradually dried off by withholding water until all growth is stopped, and much of the wood hardened off, after which the soft points and leaves should be cut away, and the plants at once put in heat and well watered. So treated they break into growth from almost every joint, and when the young shoots have attained a length of about two inches they should be taken off and inserted in pots or pans of prepared soil, kept close and moist in a temperature of 70°, where they will root in a few weeks; after which pot off singly, pinching the points of the shoots out two or three times during the spring, so as to make them bushy. Six or seven inch pots are large enough to bloom them in the first year, and they should be moved into these about May or June; after this they may occupy cold frames, or be stood out of doors in a warm sheltered position, until the middle of September, when they will be well set with flower buds, and must be taken in-doors. The time of their flowering will require to be regulated by keeping them in a greenhouse temperature, or by putting them in heat if wanted to come in bloom early. We have so far gone into the details of their treatment with a view to bring them under the notice of all who love beautiful flowers, and who have the means of giving them warmth in winter; for though they will bloom, to some extent, in a greenhouse temperature in autumn and winter, yet to flower them well they require to be treated as stove plants during the latter season. Our illustration was taken from a plant in Mr. Bull's Nursery, Chelsea.

THE GAUNTLETTED TACSONIA.
(TACSONIA MANICATA.)

[PLATE 38.]

THE GAUNTLETTED TACSONIA.

(TACSONIA MANICATA.)

A Greenhouse Creeper, from PERU, *belonging to the Order of* PASSIONWORTS.

Specific Character.

THE GAUNTLETTED TACSONIA.—Bracts entire, united at the base, downy, longer than the tube of the calyx. Leaves downy on the under side, smooth on the upper, divided below the middle into three serrated lobes. Leaf-stalks with several glands. Stipules roundish, toothed in a crested manner.

Tacsonia manicata: *Jussieu in Annales du Muséum*, vol. vi., t. 59, f. 2.

WE believe this species to be unrivalled among climbers, for the brilliant scarlet of its gorgeous blossoms. Placed by their side, the red coat of an English soldier becomes dull and pale. It is a native of Peru, and probably common there, for many botanical travellers have observed it. Humboldt and Bonpland brought some varieties from the city of Loxa; Hartweg says that it is found in hedges near that place; and it forms No. 1,294 of Linden's Herbarium, gathered by his collectors Funck and Schlim, in the province of Merida, at the elevation of 7,000 feet above the sea.

It forms a rambling climber, with grey three-lobed leaves and large scarlet flowers, whose tube is almost concealed by three downy bracts, from which circumstance we presume that Jussieu gave it the name of the gauntletted (or manicate); it must be owned that the tube of the flower may not unaptly be compared to an arm thrust into a large loose glove. The coronet consists of two principal rows of short violet teeth planted on the green tube of the calyx-lining.

Upon what precise ground the Tacsonias are separated from the Passionflowers is by no means clear. De Candolle relies upon the former having a very long tube to the

calyx and a scaly coronet; but in this plant the tube is as short as in any Passionflower, and there is nothing peculiar in the coronet. Meisner's analysis brings out no more; and it is impossible to gather any distinction after comparing Endlicher's prolix descriptions. Nevertheless, there is something very peculiar in the appearance of Tacsonias, and we trust that in time a real distinctive character will be discovered.

The species was introduced by the Horticultural Society.

GLEANINGS AND ORIGINAL MEMORANDA.

ACONITUM SINENSE. *Siebold.* A hardy plant of the order of Crowfoots. Flowers deep violet, appearing in the autumn. Native of Japan. (Fig. 112; *a* represents a flower of *A. autumnale* by way of contrast.)

We have now two perfectly distinct autumnal Asiatic Monkshoods in cultivation; one the *A. autumnale*, the other Siebold's *A. sinense*. The latter forms a stem from one and a half to two feet high, slightly downy, round, with regularly five-parted leaves, the segments of which are incised, marked with a deep middle vein, and recurved a little; the flowers few, deep violet, on woolly and glandular peduncles; the helmet hemispherical, with no visible peak. The former is similar in foliage, except that the lobes of the leaves are much longer, and quite falcate, the flowers larger, in a close erect raceme, pale violet, with a pubescent stalk, and a more compressed helmet, with a long curved peak. (This is not shown at *a*, in consequence of the foreshortening.) Either of them may be the *A. Napellus* of Thunberg. Both are distinguished from the *A. japonicum* by the deep falcate divisions of the leaves, and long racemes of flowers. They are very useful autumn plants, are quite hardy, but worth a greenhouse, in which, in England, they are seen to most advantage. The specimen figured is a very small one. We have one before us from Prof. De Vriese, with a branched inflorescence, and eight flowers open at once.

NEPENTHES ANGUSTIFOLIA. *M. T. Masters.* In this we have another new species of

Nepenthes. It has been raised by Messrs. Veitch from seeds collected in Sarawak by Mr. Curtis. Besides such large species as the Rajah it is of Lilliputian dimensions, but nevertheless it is an interesting kind. The pitchers are from one and a half to two inches in length, spotted with red on a green ground. In the matters of heat and moisture it will no doubt succeed with similar treatment to that adopted for others from similarly hot climates.

Growth slender. Leaves subcoriaceous, glabrous, four inches by three-quarters of an inch, sessile, amplexicaul, decurrent, narrowly lanceolate, acuminate, with the mid-rib prolonged into a long tendril. Pitchers one and three-quarters to two inches long, green, spotted with red, flask-shaped, distended at the base, gradually passing into an elongated cylindrical neck, wings narrow, fringed; mouth obliquely ovate, sulcate-striate, lid glabrous, cordate, suborbicular, with a short entire or pinnatisect spur at the base.—*Gardener's Chronicle*, N.S., vol. xvi., p. 524.

Synechanthus fibrosus. Elegant as are the Palms, yet the common fault, from a cultural point of view, is that so many of them are too large for far the greater portion of glass structures; and even in the largest houses it often happens that the plants so outgrow their limits after a few years, that there appears to be a continual struggle with them to get through the glass. Such Palms as this, of dwarf habit, are consequently much better adapted for general use, possessing the elegance in habit of the larger kinds without their disadvantages: in the cultivation of these and most others of a like character, the mistake is often made of giving them too much root-room; they will thrive and keep in a healthy condition for many years in pots or tubs much smaller than most plants that attain a like size. They are not particular as to soil—either peat or loam will answer for them—but they must have the pots well drained, so as to allow the liberal supplies of water which they need to pass freely away. This is a very handsome species, growing to a height of eight or ten feet. The plant is in the Kew collection, and is a native of Guatemala.

Trunk four feet high, solitary, erect, slender, ringed, green. Leaves as long, erect, and spreading, pinnate, sometimes interruptedly; leaflets numerous, one to one and a half feet long, spreading and rather pendulous, linear-lanceolate from a broad adnate base, bright green, five to seven nerved, the costa prominent, quite glabrous, margins recurved towards the base; rachis subterete with a mesial ridge above; petiole rounded; sheathes short, open. Spadices numerous from amongst the leaves, sub-erect, one-third as long as the leaves; peduncles long, slender; branches many, strict, forked, very slender. Spathes several, tubular, membranous, persistent. Flowers in two-ranked short linear clusters of eight to ten placed alternately on opposite sides of the branches, minute, green, sessile, the lowest of each cluster female, the rest males; bracts and bracteoles none. Calyx of three very short transversely elongate sepals. Petals of the male ovate, valvate; of the female orbicular, imbricate. Stamens six, attached to the base of the petals. Ovary globose, three-celled, with an erect ovule in each cell; stigmas three, sessile, minute. Fruit an ellipsoid orange-red sessile drupe, one to one and a quarter inches long; pericarp fleshy and fibrous. Seed free, erect, ellipsoid, smooth, raphe with faint branches; albumen equable; embryo near the top of the seed.—*Botanical Magazine*, 6572.

Astrapæa viscosa. *Sweet* (*alias* Dombeya Ameliæ, *Guillemin*). A soft sticky-leaved stove plant, with clusters of white and pink flowers. Belongs to Byttneriads. Native of Madagascar. Introduced in 1823. (Fig. 113.)

A noble plant or tree, thirty feet in height, as now seen in the great stove of the Royal Gardens at Kew, with a large rounded head of copious branches, and dense foliage, studded, in the spring months, with numerous snowball-like heads of flowers, each flower stained with a deep blood-coloured eye. The flowers have a honey-like smell. The young herbaceous branches and nascent leaves, accompanied by large, cordate, afterwards deciduous stipules, are exceedingly viscid. Leaves on long stalks, the largest a span and more long, heart-shaped, roundish, five-angled (the smaller ones three-angled), the angles or lobes acuminate, the margins serrated. The young flower-head is clothed by large deciduous bracteas, and at the base of the head three or four such bracteas form an imperfect involucre. These bracteas disappear on the full expansion of the many flowers into a globose head, four inches and more in diameter. Sepals ovate, acuminate, hairy externally. Petals five, twisted broad-wedge-shaped, pure white, the base deeply dyed with crimson. Staminal tube urceolate, bearing

five perfect short stamens, and five long sterile filaments. Style divided at the top into five reflexed branches. This is a tree, of quick and robust growth, soon arriving at a height that renders it unsuitable for hothouses of the ordinary dimensions. In the Royal Gardens it has rapidly attained the height of upwards of twenty feet ; but, as it branches freely, it may, with management, be kept within bounds by frequently cutting back the leading shoots. It grows readily in light loam, and should be rather freely supplied with water, as its numerous fibrous roots take it up very quickly, and the size and texture of its leaves present a large and free evaporating surface. It is easily increased by cuttings, planted under a bell-glass, the pot being plunged in bottom-heat.—*Bot. Mag.* t. 4544.

113

FREZIERA THEOIDES. *Swartz.* (*alias* Eroteum theoides *Swartz.*) A green-house shrub from Jamaica, with the aspect of a tea-plant. Flowers white. Belongs to Theads. Blossomed at Kew in September. (Fig. 114.)

A Jamaica shrub or small tree, inhabiting the higher mountains of that island, and remarkable for its very near resemblance, both in the leaves and flowers, to the black tea of China. Dr. M'Fadyen informs us, in his useful 'Flora of Jamaica,' that the leaves are astringent, and in taste resemble those of the green tea. A smooth shrub four or five feet high in our stove ; in Jamaica, it attains a height of twenty feet. Leaves alternate, on short stalks, leathery, very dark green, elliptical-lanceolate, acute, serrated. Peduncles all solitary, axillary, curved down, single-flowered. Flower an inch and a half across. Calyx bibracteolate at the base, five-sepaled ; sepals broad ovate, acute, green, margined with red. Petals cream-white, obcordate. Stamens numerous, attached to the base of the petals. Anthers oblong, opening by two pores, furnished with a tuft or pencil of hairs at the back. Fruit "a berry, the size of a small cherry, globose, purple, juicy, three- or four-celled. Although not a showy plant, its neat evergreen habit renders it worthy of a place in general collections. It resembles the well-known *Ardisia crenulata*, but grows more luxuriantly ; as, however, it bears cutting back, it may be kept to a proper size, and will form a neat bush. It should be grown in a moderate stove temperature, and will thrive in any kind of light loam, water being freely given it during dry weather in summer. It is readily propagated by cuttings, planted in sand, under a bell-glass, and plunged in a moderate bottom-heat.—*Bot. Mag.* t. 4546.

114

Odontoglossum vexillarium rubellum. A very handsome form of *O. vexillarium*, with short stout pseudo-bulbs, and robust foliage. It seems to be quite distinct in its habit of blooming in the autumn, keeping on up to the end of the year. It also differs from such as have been hitherto in cultivation, inasmuch as all the plants are exactly alike in the size and colour of the flowers, whilst in the ordinary species scarcely any two are the same. The flowers are of medium size, the colour warm pink. Mr. Bull received a First Class Certificate for it at the Royal Horticultural Society's meeting in October, 1881.

Osbeckia rostrata. A handsome melastomad with rosy-pink flowers, produced in loose erect spikes at the extremities of the shoots. The plant comes from Bengal, consequently requires stove heat to grow it. After being introduced it would seem to have been lost until again obtained by Messrs. E. G. Henderson and Son, of the Pine Apple Nursery, with whom it flowered in the autumn of 1880. Ordinary stove treatment will no doubt be all it requires.

A rather slender sparingly-branched herbaceous shrub two to four feet high, glabrous, hairy, or hispid. Stem soft, strict, sometimes as thick as the finger at the base and four-winged, four-angled above, side-branches if any usually long and slender. Leaves three to ten inches long, opposite and three-nately whorled, subsessile, or with short thick petiole, elliptic-oblong-ovate or lanceolate, acuminate, quite entire or crenulate; transverse nerves distinct. Flowers two to two and a half inches in diameter, four-merous, in loose terminal corymbs with four-angled peduncles and pedicels; bracts ovate, caducous. Calyx half to nearly an inch long; tube with an inflated base, glabrous or stellately pubescent; limb with four ovate-acute segments. Petals nearly orbicular, with a waved margin. Anthers subequal, with long curved beaks. Ovary with a glabrous or hispid crown. Fruiting calyx glabrous, or clothed sometimes densely with very long stellate hairs, giving it a shaggy appearance.—*Botanical Magazine*, 6575.

Berberis sinensis. This is the most elegant habited of all the cultivated species of Berberry, being even more graceful than the beautiful *B. stenophylla*. It is far from being a new plant, having been long introduced, but it is not near so well known as it deserves to be. With the view of bringing it more to the knowledge of cultivators, we have noticed it here. It comes from China, and is quite hardy. In addition to the beauty of its drooping branches laden with small yellow flowers in spring, the bright red berries that follow are remarkably handsome.

A much-branched glabrous bush four to six feet high, branches sub-erect; branchlets long, slender, pendulous, spines in pairs or threes. Leaves fascicled on the branches, one to two inches long, very variable in size and shape in each fascicle, coriaceous, green not glaucous, from linear-obovate to spathulate, obtuse acute or apiculate, quite entire or rarely sparingly spinulose-toothed (strongly so in the young plants); nerves faint. Flowers in very slender long-peduncled pendulous many-flowered racemes two to three inches long; each on a slender pedicel of one-fourth to half an inch long, with a minute deciduous bract at its base. Perianth globose, very small, under one-fourth of an inch in diameter, pale yellow. Outer sepals minute orbicular; next series cymbiform. Petals smaller, inner series rather truncate. Berries one-third to half an inch long, narrowly ellipsoid, rounded at the base and tip, bright red, one to two seeded; stigmas small, quite sessile.—*Botanical Magazine*, 6573.

THE YELLOW BLANDFORDIA.

[Plate 39.]

THE YELLOW BLANDFORDIA.

(BLANDFORDIA FLAVA.)

A Herbaceous Greenhouse Perennial, from New Holland, *belonging to the Natural Order* Liliaceæ.

THIS is evidently a variety of the well-known *B. nobilis*, an orange-coloured species from New South Wales, introduced about the beginning of the present century. The plant here figured was introduced by Mr. Bull. Its leaves are tapering, nearly erect, of a pale green colour. The flower-stem, which rises well above the foliage, springs from the crown of the plant; the flowers, ten or more in number, are borne on the top of the spike; they are about two inches long, and nearly one and a half wide, bright yellow in colour; the petalite segments are six in number. It is a remarkably handsome plant, blooming in the autumn, and, like the rest of the species, it requires greenhouse treatment.

The Blandfordias form a very select division of the Liliaceous family, there being only some seven or eight species in cultivation, all of which are indigenous to Australia and the adjacent countries.

Their cultivation is not difficult, but they increase slowly, and are propagated by seeds, as also by division of the crowns or offsets. They may be divided a little before the plants begin to grow in the spring, securing to each piece as many roots as possible. The crowns thus taken off ought to be placed singly in three-inch pots, drained well, and filled with good fibrous peat, broken fine; to this should be added a little leaf-mould and rough sand, to secure porosity. If to be grown from seeds, these should be sown, as soon as they are ripe, in pots filled with finely-pulverised peat and sand; a little more warmth should be given them than that of an ordinary greenhouse until the seed germinates, but the young plants must not be kept too warm, or they will grow weakly. As soon as large enough, the seedlings must be placed singly in small pots,

and have additional room given them as they require it. Whilst growing, Blandfordias want a moderate amount of water to the roots, and should be kept somewhat drier during the winter when at rest. The leaves are tough and leathery in texture, and, in common with most plants from the same part of the world, they delight in all the sun we can give them, as the better matured the whole plant is by exposure to the full sun, the better it grows and flowers.

THE BLUE VANDA.
(VANDA CŒRULEA)

[PLATE 40.]

THE BLUE VANDA.

(VANDA CŒRULEA.)

A Stove Epiphyte, from Woods on the KHASYA HILLS OF INDIA, *belonging to* ORCHIDS.

Specific Character.

THE BLUE VANDA.—Leaves distichous, leathery, equal-ended, truncate, with a concave notch and acute lateral lobes. Spikes close, erect, many-flowered. Bracts oblong, concave, very blunt, membranous. Sepals and petals light blue, membranous, oblong, very blunt, flat, with a short claw. Lip leathery, deep blue, linear oblong, obtuse at the point with two diverging lobes, three plates along the middle, and a pair of triangular acuminate lobes at the base. Spur short, blunt.

Vanda cœrulea: *Griffith MSS.*: *Lindl. in Bot. Reg.*, 1847, *sub t.* 30.: No. 1284, *Griffith, Itinerary Notes, p.* 88.

"THIS glorious plant, perhaps the noblest of the Indian race, was called *Vanda cœrulea* by Mr. Griffith, who found it among the Khasya or Cossya Hills, and sent us dried specimens. Its flowers are as large as those of *Vanda teres*, and the foliage is as good as that of *Aerides odoratum*.

"The leaves of this wonderful plant are five inches long by nearly one inch wide; at their end they are two-lobed equally, and each lobe is sharp-pointed, so that the end looks as if a piece had been struck off by a circular punch. The flowers grow in upright spikes. A piece of a stem but four inches long bears four such spikes, which are from six to nine inches long, and carry from nine to twelve flowers. Each dried flower is between three and four inches in diameter, and if allowance is made for their having shrunk in drying, they may be estimated as at least a foot in circumference. The lip is, as is usual among Vandas, small; it is barely three-quarters of an inch long, narrow, with a short spur and a two-lobed point. Its surface is broken by three deep parallel perpendicular plates, and the lateral lobes of the base are triangular and acuminated."

The accompanying plate is witness of the extraordinary beauty that belongs to it. The colour of the flowers is of a rich tender lilac, their texture is as delicate as that of Phalænopsis, and their dimensions are at least equal to what was stated in the preceding paragraph. In short, the species is a dangerous rival of the Phalænopsis itself.

Its exact residence is now known. Mr. Griffith tells us that it occurs near the River Borpanee on trees of Gordonia, in the Pine and Oak forests of that region.* It is, however, not a little remarkable that his journal contains no allusion to it; but we find that the district produces Bauhinias, Randia, *Phyllanthus Emblica*, and Sugar Canes, all indications of a tropical region. The woods are described as delightful, reminding one of England. The elevation of the Borpanee above the sea is 2,508 feet; the temperature is 74°; the neighbouring vegetation Castanea (tropical species of course), Kydia, *Camellia oleifera*, *Rhododendron punctatum* (whatever that may be), and Cuscuta.

The honour of having introduced this glorious plant belongs to Messrs. Veitch, who received it from their invaluable traveller, Mr. Thomas Lobb. The accompanying figure does scanty justice to it; for although it represents faithfully the beautiful tender blue of the flowers, it by no means equals the magnitude of the wild plant. We have a dried specimen now before us with nine flowers open at the same time.

* We transcribe his note upon the plant, as published in his *Itinerary*, the blunders of the editor and transcriber being corrected. "Caule altiusculo interdum 2-pedal.; folliis distichis loriformibus, canaliculatis, apice profundè et inæqualiter emarginatis, quam maximè coriaceis. Racemis axillaribus folia longè excedent., flexuosis, supra bracteis adpressis livido maculat.; bract. florum membranaceis reflexis fuscescent.; floribus resupinatis maximis, diametro 2½ uncial., pulcherrimis cœrulescentibus saturatiore colore tessellatis; labelli lobis lateral., albis, columnaque alba. Perianth. patentiss. lacin, obovat.; sepalis undulatis uti petala; petalis sepaloque postico paulo minoribus; labelli trilobi lobis lateral. dentiformibus, medio emarginato, apice bicalloso tricarinato, calcare brevi recto. Color cœruleo-purp. Columna albida, nana, basi ad junctionem labell. macula lutea. Anth. simplex. Pollinia 2 complanat. posticè fissa; caudiculâ latâ; glandulâ maximâ trigonâ."

GLEANINGS AND ORIGINAL MEMORANDA.

VANDA BOXALLII COBBIANA. A variety of the handsome *V. Boxallii* introduced by Messrs. Low, and flowered with Mr. Cobb, of Sydenham.

Flowers very large, milky-white, with small short purple stipes on base. The inner half of lateral sepals is of the darkest purple-brown. There are no blotches on the tops of sepals and petals, which is the chief difference between this and the original *V. Boxallii*.—*Gardener's Chronicle*, N.S., vol. xvi., p. 780.

ESCALLONIA RUBRA, *var.* PUNCTATA. This is a much smaller-growing species than *E. macrantha*, now so well known in most parts of the kingdom as a favourite evergreen wall-plant, and which is deservedly popular for its pretty flowers and handsome deep green glossy leaves. *E. rubra* is a native of Chili, and appears to thrive under like conditions to *E. macrantha*. The flowers, produced from one to four in corymbs, are bright red in colour, giving the plant a pretty appearance. Ordinary garden soil, with the protection of a south wall where it can get plenty of sun, seems to suit it.

A shrub, three to six feet high, much branched, evergreen, more or less clothed with resinous pubescence glands; branches slender, twiggy, with rich brown bark. Leaves one to one and a half inches long, deep bright green, sessile or narrowed into a very short petiole, elliptic-ovate acute, finely serrated, the serration often irregular; upper surface glossy with deeply impressed veins; under paler, smooth, glabrous, or glandular-pubescent, or gland-dotted. Flowers one to four, rarely more, in terminal corymbs, suberect, pedicels a quarter to half an inch long, pubescent. Calyx-tube turbinate, limb of five spreading entire or serrate triangular-ovate acuminate lobes, rather longer than the tube. Corolla deep dark red; petals one-third to half an inch long, cohering in an obtusely five-angled tube, with thickened angles (the overlapping margins), tips of the petals about twice as broad as the claws, rounded, revolute. Stamens equalling the tube in length, anther-tips exserted. Stigma very shortly exserted.—*Botanical Magazine*, 6599.

DROSERA CAPENSIS. Most people possessing any knowledge of plants are acquainted with the Sundews of our native swamps—those interesting little fly-catchers, the leaves of which, by the aid of their glutinous glands, allure to their destruction the incautious flies and gnats that come to feed on the sweet sticky secretion which stands like miniature pearls on the tips of the hair-like glands. The plant under notice is one of the species introduced from the Cape of Good Hope. The stem, from the top of which the leaves spring in a tuft, is of a woody nature; the leaves are thickly studded with bright red hairs, giving the plant a very pretty appearance. It was introduced by Messrs. Veitch; the description is taken from a plant that flowered at Kew in a cool greenhouse. It is a pretty species, well deserving cultivation.

Stem one or two inches high, erect, simple, clothed with remains of leaf-bases and stipules. Leaves crowded at the top of the stem, four to eight inches long, spreading; blade as long as the petiole, one-fourth of an inch wide, strap-shaped, obtuse, clothed with long red gland-tipped hairs; petiole stout, hairy. Scape stout, much longer than the leaves, hairy and slightly glandular. Raceme three to six inches long, many-flowered, sharply decurved before flowering, ascending as the flowers open. Flowers opening one at a time, an inch in diameter, pale rose-red; pedicels short. Sepals elliptic-oblong, obtuse. Petals orbicular-obovate. Anthers with a broad connective and the cells spreading below. Ovary oblong, three-grooved, with three placentas; stigmas three, divided to the base into two spreading and then ascending filiform divisions, each with a capitate stigma.—*Botanical Magazine*, 6583.

Didymocarpus crinita. *Jack* (*alias* Henckelia crinita, *Sprengel*). A yellow-flowered herbaceous plant from Malacca, with dark green leaves purple beneath. Belongs to Gesnerads. Flowers at Kew in August.

115

A lovely plant, its beauty rather depending on the leaves (which have a rich velvety hue, as well as a richness of *colour*, especially beneath) than upon anything striking in the flowers. The latter are pale yellow white with us (Jack says, in their native country suffused with blush), and they contrast well with the dark foliage. We possess, in our herbarium, fine native specimens, gathered by Mr. Thomas Lobb at Singapore, given to us by Mr. Veitch (No. 311 of Lobb's collection), and we find, too, that this distinguished cultivator exhibited flowering plants at the Horticultural Society's rooms in June, 1847. Stem erect, scarcely a span high, densely shaggy with purplish hairs. Leaves opposite, broad-lanceolate, acute, finely dentato-serrate, all over hairy, above dark coppery green with a velvety lustre, beneath rich purple-red, penninerved, nerves prominent beneath. Corolla funnel-shaped, ventricose below the broad spreading five-lobed white lip, yellow, with the tube two inches long. Should be cultivated in a warm stove, in a temperature such as is suited to tropical *Orchidaceæ*, *Gesneriaceæ*, and other sub-epiphytal plants, that require a warm and moist atmosphere during their season of growth. It appears to be of dwarf growth, and produces short lateral shoots from amongst the leaves, which strike root readily when treated as cuttings. —*Botanical Magazine*, t. 4554.

We fear that cultivators will be disappointed who expect to find *much beauty* in this plant beyond what belongs to the foliage, which is very handsome.

Calceolaria alba. *Ruiz and Pavon.* A shrubby white-flowered slender plant, from Chili. Introduced by Messrs. Veitch & Co. Flowers in July. (Fig. 115.)

A slender, smooth, viscid shrub, with linear leaves arched downwards, and furnished with distant simple teeth at the edge. The flowers are pure *white*, and form loose thyrso-like panicles. The lower lip of the corolla is nearly spherical. In a genus the species of which are so generally either yellow or purple, a white-flowered species is a horticultural acquisition. The present, if well cultivated, is one of the prettiest greenhouse shrubs of modern introduction, and may be expected to find much favour among gardeners. Except in colour, it is very like the yellow-flowered *C. thyrsiflora*, from the same country.

Adiantum Lathomii. A distinct and handsome Adiantum, which was exhibited by the Horticultural Company at South Kensington, and received a First Class Certificate.

It is a well-marked form of Adiantum, bearing some resemblance to *A. scutum*, and will most likely become a favourite with cultivators.

Odontoglossum Williamsianum. If this is not a species, it is supposed to be a natural hybrid of the *O. grande* type, which to those at all acquainted with Orchids

will be a sufficient recommendation; for it must be confessed that, elegant and beautiful as are many of the newer-discovered species, none equal *O. grande* in the gorgeous colouring of its large massive flowers. The subject of our notice appeared in the Holloway Nursery, and has been named by Professor Reichenbach in compliment to Mr. B. S. Williams.

In colour much like *O. grande*, petals shorter, broader, and blunter than in the last-named species; column with uncinate wings, as in *O. Insleayi* and *O. Schlieperianum*. Keel sharper than that of *O. grande*, with an adventitious angle at each side.—*Gardener's Chronicle*, N.S., vol. xvi., p. 134.

ODONTOGLOSSUM NEVADENSE. A handsome species introduced by M. Linden, through the collector Wallis, who found it in the mountain districts of New Granada. It is a distinct and handsome species, and will doubtless thrive under the conditions of heat and moisture that are found to answer for the section of Odontoglots that do best with a little more warmth than the cool kinds, of which *O. crispum* is the most popular example.

Pseudo-bulbs ovate pointed compressed, with a pair of linear-lanceolate leaves. The flowers are large and borne in loose pendulous racemes from the base of the pseudo-bulbs. Sepals and petals narrow, lanceolate, acuminate, yellow, heavily spotted with rich brown. Lip white striped with brown, with two erect crescent-shaped lateral lobes near the base, and with two prominent crests in the middle near the base, and finely toothed at the margin.—*Gardener's Chronicle*, N.S., vol. xvi., p. 460, with fig.

DEUTZIA GRACILIS. *Zuccarini*. A fine hardy deciduous shrub from Japan, with weeping branches profusely covered with small white flowers. Belongs to the Syringas (*Philadelphaceæ*). Introduced by Dr. v. Siebold. (Fig. 116.)

116

The beauty of such Deutzias as we have in our gardens renders every species an object of considerable interest. This, which inhabits the damp valleys and lofty mountains of Japan, is said to grow naturally about two yards high; its branches are long, flexible, and drooping, especially when in flower. The leaves are small, wedge-shaped-lanceolate, or ovate-lanceolate, tapering to the point with small serratures, and a coating on both faces of fine starry hairs. The main branches are covered with lateral branchlets, bearing at the point graceful racemes of white flowers about as large as those of a Snowy Medlar (*Amelanchier*).

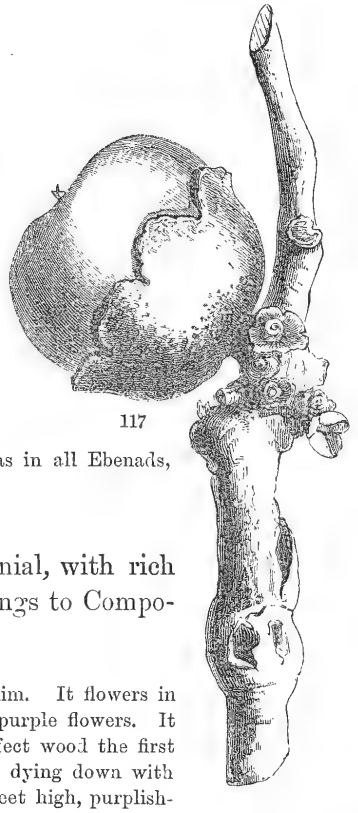
It is necessary to observe that under the false name of *Deutzia gracilis* there exists in gardens a worthless Callicarp, which Siebold calls *C. Murasaki*.

NEPENTHES MASTERSIANA. In this we have another hybrid variety raised by Mr. Court, the indefatigable cultivator of these plants in Messrs. Veitch's establishment. It

is a well-chosen cross between two very distinct species, the rare East Indian *N. sanguinea*, and the Chinese *N. distillatoria;* the former remarkable for its large size, and the intense red colouring of nearly the whole surface of the pitchers; the pitchers of *N. distillatoria*, which was the pollen parent, and much better known, are pale green. In form the pitchers of the new variety are intermediate between the parents; the colour is claret-red; and when sufficient time has been allowed for the plants to attain their full size, the pitchers will, no doubt, be large.

Leaves sessile, glabrous, coriaceous, oblong obovate acute, reddish at the margins, auriculate-amplexicaul at the base, midrib depressed above, prominent beneath. Pitchers deep claret-red, thinly covered with appressed brownish hairs, and here and there purple-spotted, cylindric, somewhat ventricose, and slightly contracted above the middle; wings deep, sharply and irregularly toothed at the margin; mouth rounded, slightly prolonged at the back, and surrounded by a clear shining red closely-ribbed margin; throat pinky-cream, coloured with red spots; lid about the size of the mouth, suborbicular, convex, with radiating venation, and with a simple spur at the base.—*Gardener's Chronicle*, N.S., vol. xvi., p. 748.

Diospyros amplexicaulis. A stove shrub, with hard dry alternate sessile leaves, which clasp the stem by their base. Native of the Mauritius. (Fig. 117.)



117

D. amplexicaulis; glaber; foliis sessilibus amplexicaulibus coriaceis orbiculatis obtusis v. acutis, fructu turbinato ligneo 10-loculari 10-spermo in calyce coriaceo cupuliformi campanulato 6-lobo insidente.

An anonymous correspondent of the *Gardener's Chronicle* has sent us a leaf of what certainly is the plant now defined. He appears to have received it under the name of *Jossinia sp.*, and no doubt from the Mauritius, for we find it among dried plants of that island communicated by M. Bouton. How different it is from a Jossinia, whose fruit is fleshy and eatable like a medlar, will be seen by the accompanying figure taken from M. Bouton's specimen. It may also be added that in the Jossinias the leaves are filled with transparent dots after the manner of their race; while in Diospyros, as in all Ebenads, the leaves are dotless. It seems to be related to *D. reticulata*.

Aster Sikkimensis. *Hooker.* A handsome hardy perennial, with rich violet and yellow flowers. Native of the Sikkim Alps. Belongs to Compositæ. Introduced at Kew.

Raised from seeds sent by Dr. Hooker from the Alpine regions of Sikkim. It flowers in October, and enlivens the garden at that late season with its copious bright purple flowers. It is remarkable of this and of *Aster Cabulicus*, that the stems form almost perfect wood the first year, three or four feet high, in the early winter abounding in leaf-buds, but dying down with our winter to the root. Stem erect, almost woody, and fragrant, three or four feet high, purplish-brown. Leaves glabrous, lanceolate, narrowly acuminated, spinuloso-serrate, with several parallel, very oblique nerves and numerous lesser connecting ones. Corymbs large, leafy, with numerous heads, which are purple. In the open ground it has every appearance of assuming the character of a hardy perennial.—*Botanical Magazine*, t. 4557.

Pitcairnia cinnabarina. *Dietrich.* A fine stove Bromeliad, with spikes of brilliant red flowers. From Brazil. Introduced by Ohlendorff & Son, of Hamburg.

The leaves of this species are quite entire, smooth, and reddish underneath. The racemes are about six inches long, one-sided; the flowers quite smooth, about two inches long, of a deep rich vermilion red colour. Seems to be a very handsome plant.—*Allgem. Gartenzeit*, 1850, p. 202.

THE ANGLEBEARING LEAF-CACTUS.
(PHYLLOCACTUS ANGULIGER.)

[PLATE 41.]

THE ANGLEBEARING LEAF-CACTUS.

(PHYLLOCACTUS ANGULIGER.)

A Fine Greenhouse Shrub, with White Flowers, from the WEST OF MEXICO, *belonging to the Order of* INDIAN FIGS.

Specific Character.

THE ANGLEBEARING CACTUS.—Branches leafy, stiff, flat, thick, pinnatifid, the lobes being nearly right-angled triangles. Flowers brown without, white within. Sepals longer than the petals. Stigmas nine to ten.

Phyllocactus anguliger, "*Lemaire, Jardin fleuriste*, 1, 6;" *according to the Gardener's Magazine of Botany.*

THIS noble plant is nearly related to the *Cereus crenatus* of the *Botanical Register*, which itself stands in close affinity to the *Cereus Phyllanthus* of the *Botanical Magazine*, which is very different from the *Cactus Phyllanthus* of Linnæus. Of the three, the last is the least showy, but all must rank among the most striking of the white-flowered species of this great order. The present opens its flowers by day, retains them in beauty and fragrance for several hours, and yields a succession for days together; they are less white than in the other two species, on account of the dark brown tinge of the sepals; but, on that very account, the petals, which are much sharper pointed than in *C. crenatus*, are, perhaps, more conspicuously fair.

In Hartweg's meagre account of his journey to California, this plant is first mentioned as occurring near Matanejo, a village in the west of Mexico, at no great distance from Tepic.

"The vegetation," says this collector, "as far as the small village of Matanejo, where we arrived in the evening, affords little interest at this season. The copsewood covering the sides of the ravines is composed of deciduous leafless shrubs, only relieved by a giant Cereus, forming a singular tree; this generally has a single stem, two or four feet high, by eighteen inches in diameter, when it divides into numerous triangular branches, rising perpendicularly to the height of twenty to thirty feet. In May it yields a delicious fruit, called Pitaya, when it is much sought after by the natives. Leaving Matanejo early the following morning (Jan. 22nd), we soon entered a forest of oaks; here I found two species of

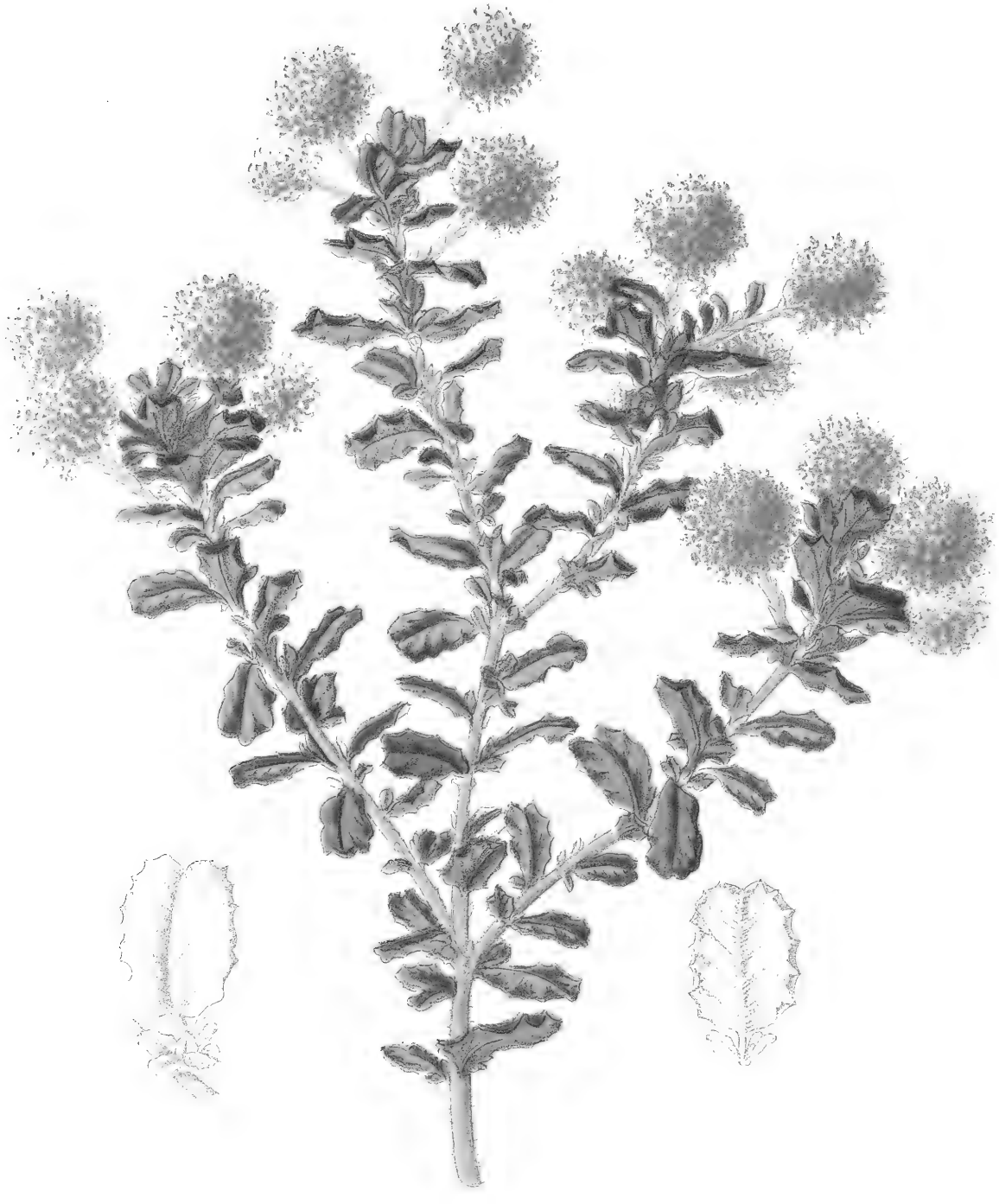
Epidendrum, an Oncidium, Odontoglossum, and an EPIPHYLLUM, the latter, like *E. Ackermanni*, inhabiting trees. Although I have not seen it in flower, yet, judging from its broad, deeply-cut leaves, or rather stems, it will prove a valuable acquisition to that interesting tribe of plants."—*Journal of Horticultural Society*, vol. i., p. 184.

The plant called an Epiphyllum in this extract is what we now represent. It would seem, from its being associated with oaks, that it will require no greater protection than a good greenhouse; and, in fact, it proves to be one of the hardier species of its order. Nevertheless, like others of the leafy kind, the atmosphere of a stove is best suited to it while making its growth.

In deference to the opinion of Prince Joseph of Salm-Dyck, we call this a Phyllocactus rather than a Cereus; for it must be owned that, if such genera as Echinocactus, Mammillaria, and Opuntia deserve to be adopted, because of the peculiar form of their stems, so also must Phyllocactus, whose jointed stems are very different from the uninterrupted stems of the true Cerei. Under the former genus are now collected the following additional species, viz., *Cereus phyllanthoides* of the *Botanical Magazine; Epiphyllum Ackermanni* of the *Botanical Register; Cereus latifrons* of Pfeiffer; and *Cactus Phyllanthus* of Linnæus; to which are to be added two new species of Phyllocactus, viz., *stenopetalus* of Salm-Dyck, and *grandis* of Lemaire.

In strict justice, the generic name of *Phyllocactus*, now employed, and first applied by Link in 1833, ought to be surrendered for that of *Phyllarthrus*, proposed by Necker in 1791; but custom and convenience disregard the laws of dogmatists, and refuse to be fettered by maxims which, however just and useful in the main, are never to be allowed to bend to expediency.

The accompanying drawing was made in the garden of the Horticultural Society.



THE TOOTHED CEANOTHE.

(CEANOTHUS DENTATUS.)

[PLATE 42.]

THE TOOTHED CEANOTHE.

(CEANOTHUS DENTATUS.)

A Half-hardy Evergreen Shrub, from CALIFORNIA, *belonging to the Natural Order of* RHAMNADS.

Specific Character.

THE TOOTHED CEANOTHE.—A branched evergreen bush, closely coated with ferruginous hairs. Leaves small, oblong, rounded at each end, or almost cordate, coarsely toothed, and revolute at the edge, where they are furnished with distinct slightly stalked glands; smooth, shining, and deep green on the upper side. Flowers in terminal, stalked, roundish or oblong thyrses or umbels.

Ceanothus dentatus: *Torrey and Gray, Flora of North America*, vol. i., p. 268.

DURING Douglas's last journey in California, this plant was first met with, but where is unknown. From specimens communicated to Drs. Torrey and Gray by the Horticultural Society, it was described by those authors. From Californian seeds, procured for the same Society by the collector Hartweg, it has now been raised in the Society's garden, whence it has been also extensively distributed among the Fellows. The plant which produced the specimen here represented flowered in Her Majesty's garden at Frogmore, under the care of Mr. Ingram.

It is a small bush, covered all over with rusty down, except upon the upper side of the leaves. In the cultivated plant the branches are five or six inches long, but in the wild specimens they are not more than a third of that length. The leaves are deep green, shining, wavy, strongly toothed, and rolled back at the edge, quite blunt, and somewhat heart-shaped at the base, on short stalks, furnished with a pair of triangular scale-like stipules. On the edge of the leaves appear many oblong fleshy stalked glands, which in the beginning are pale green, afterwards become yellow, and finally acquire a deep brown colour. To their presence is due a heavy, unpleasant, but slight odour, which is perceptible when the plant is touched; they afford an excellent specific character, but have been overlooked by Messrs. Torrey and Gray. The flowers are bright blue, bordering on violet, and are produced in stalked heads, which are sometimes racemes, sometimes thyrses, and even almost umbels.

The authors of the *Flora of North America* called them white, assuming such to be the case from the appearance of the dried specimens.

Like all the Californian plants, this naturally endures a hot dry summer, by which its wood is kept short-jointed, and is thoroughly ripened, so as to be enabled to support the severe winters to which it is exposed. It then, also, is loaded with clusters of flowers, twice as long as those here represented.

The two uncoloured figures on either side of our plate represent magnified views of the upper and under side of a leaf.

GLEANINGS AND ORIGINAL MEMORANDA.

Clematis coccinea. Amongst the finest hardy climbing plants we possess are the different well-known species and varieties of Clematis, alike remarkable for the size and profusion of their flowers, which range in colour from pure white, through the different shades of pale lilac, to the deepest purple. Yet, in all that have been hitherto known, there has been an absence of the brighter hues found in many genera of plants; but the species under notice is an exception, being bright red over the whole outer surface of the flowers. It has been introduced from Texas, and there is every likelihood of its proving hardy, in which case it will be a valuable addition to our out-door plants. Sir J. D. Hooker thus speaks of it in the *Botanical Magazine* for December, 1881:—

C. coccinea is a native of Texas, and was received in 1880 at the Royal Gardens, from the rich gardens of Max Leichtlin at Baden, and flowered in a cool conservatory in June of the present year. It, however, appears to be perfectly hardy, and a plant of it has been placed against a south-east wall, where it has, up to this time, grown freely.

Masdevallia Winniana. There seems to be really no end to the singularity of form the curious genus Masdevallia assumes; and in colour also it is equally varied, from the pure white *M. tovarensis*, to the intense red, purple, and magenta of some of the larger-growing kinds. The fact of their being generally so easy to cultivate, the length of time they last in bloom, together with the plants bearing division for increase into much smaller pieces than most Orchids will, and their thriving in a cool house, all tend to popularise them with cultivators. They require to be kept always moist at the root, and succeed in a temperature little above that of an ordinary greenhouse. The species under notice was first flowered by Mr. Winn, of Uplands, Birmingham, who is an enthusiastic admirer of these beautiful plants, and has one of the best and most varied collections in the country. The plant was named by Professor Reichenbach, in compliment to Mr. Winn.

Much in the way of *M. Roezlii*, but the flower is much larger; the sepals taper much more gradually into the tail; the colour is lighter; and the peduncle is erect, whilst *M. Roezlii* sends its flowers down through the basket in which it grows.—*Gardener's Chronicle*, N.S., vol. xvi., p. 198.

Vitis (Cissus) striata. This is a climbing evergreen species found in the cool districts of Brazil and Uruguay, said to be quite hardy in this country. If it really turns out to be so, it is likely to be an acceptable addition to our climbing plants that can be used in the many ways that Ivy is useful. It is described as one of the most beautiful climbers growing in the woods of Uruguay, covering the bushes with its red berries in winter.

Stems and tendrils glabrous. Leaves rather thick, dark green, evergreen, digitate; leaflets sessile, oblanceolate,

serrate, wedge-shaped at the base. Flowers greenish, inconspicuous, in cymes opposite the leaves; berries about the size of small peas, reddish in colour.—*Gardener's Chronicle*, N.S., vol. xvi., p. 427.

On the opposite page are figures of some little known species of Oncidium, viz.:—

Oncidium lunatum. *Lindley, in Bot. Reg.*, t. 1929. Flowers pale primrose, with rich brown spots; lip white, with pale brown stains. Demerara. (Fig. 118, *about natural size.*)

Oncidium gracile. *Lindley, in Bot. Reg.*, 1920. Flowers whole-coloured, yellow. Brazil. (Fig. 119, *twice the natural size.*)

Oncidium sphegiferum. *Lindley, in Bot. Reg.*, 1843, *misc.* 23. Flowers very pale clear greenish-yellow, with the sepals and petals stained with rust at the base; lip clear yellow, with numerous broken crimson bands. Brazil. (Fig. 120, *flower, twice the natural size.*)

Oncidium serpens. *Lindley, Genera et Sp. Orch.*, p. 204. Flowers yellow, spotted with dark brown. Peru. (Fig. 121, *flower, about natural size.*)

Oncidium pulvinatum. *Lindley, in Bot. Reg.*, 1838, *misc.* 115. Flowers bright yellow, with a crimson base to the sepals and petals, and numerous specks of the same colour on the lip. Brazil. (Fig. 122, *flower, less than natural size.*)

Oncidium Wentworthianum. *Bateman, in Bot. Reg.*, 1840, *misc.* 194. Flowers yellow, with deep brown bars on the sepals and petals, and a cinnamon-coloured stain over the base of the lip. Guatemala. Of this there are two distinct varieties of size and colour; the second, in the possession of Sir Philip Egerton, has flowers twice as large and as richly coloured as in the variety first known. (Fig. 123, *flower, natural size of the original variety.*)

Oncidium deltoideum. *Lindley, in Bot. Reg.*, t. 2006. Flowers bright yellow, whole-coloured, except the lip and column-wings, which are spotted with rich red. Peru. (Fig. 124, *flower, natural size.*)

Oncidium Suttoni. *Bateman, in Bot. Reg.*, 1842, *misc.* 8. Flowers greenish-yellow, with the base of all the parts a uniform dirty brown. Mexico. (Fig. 125, *a flower, rather above the usual size.*)

Oncidium nanum. *Lindley, in Bot. Reg.*, 1840, *misc.* 30. Flowers very small, bright yellow, with rich red spots. Guiana. (Fig. 126, *flower, four times the natural size.*)

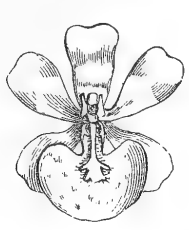
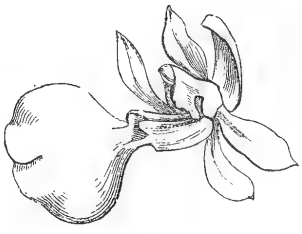
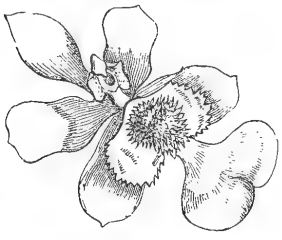
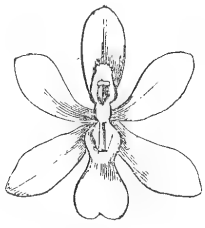
Oncidium Karwinskii. *Sertum orchidaceum*, 25. Flowers large, bright yellow, barred with brown. Lip white at the end, deep violet at the base. Oaxaca. (Fig. 127, *a flower, quarter the natural size.*) This is given to show how the Oncids differ from Miltonias, which are distinguished by the absence of warts, plates, or crest of any kind upon the base of the lip. Nothing of the kind being present here, the species is now called *Miltonia Karwinskii*. (*See Journal of Hort. Soc.*, iv. 83, where is a full-sized figure of the flower.)

Oncidium pumilum. *Loddiges' Bot. Cab.*, t. 1732. Flowers very small, yellow, marbled with brown. Brazil. (Fig. 128, *flower, four times the natural size.*)

Oncidium Hartwegii. *Lindley, in Plantæ Hartwegianæ*, p. 151. Flowers small, brownish-yellow, apparently whole-coloured. Peru. (Fig. 129, *twice the natural size.*)

Oncidium unguiculatum. *Lindley, in Journ. of Hort. Soc.*, 1. 303. Flowers pale green, speckled with crimson, and a clear yellow lip. Mexico. (Fig. 130, *column and lip, half natural size.*)

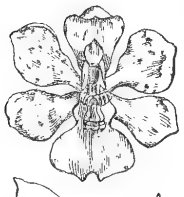
118 119 120 121

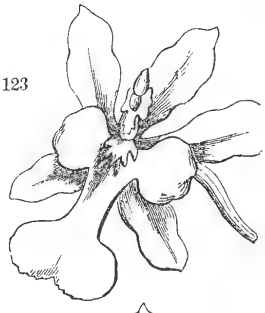
122

ONCIDIUM SUAVE. *Lindley, in Bot. Reg.*, 1843, *misc.* 22. Flowers primrose-colour, sweet-scented, stained with cinnamon at the base of all the parts. Mexico. (Fig. 131, *a lip, the natural size.*)

126

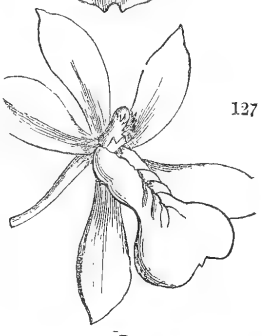


123



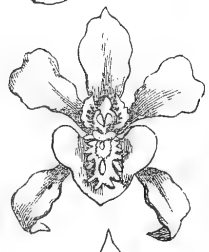
ONCIDIUM RETUSUM. *Lindley, in Bot. Reg.*, 1920. Flowers yellow, the sepals and petals broadly banded with brown; the lip whole-coloured. Peru. (Fig. 132, *a complete flower, natural size.*)

127

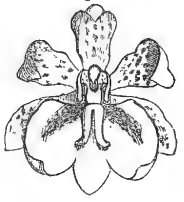


ONCIDIUM OBLONGATUM. *Lindley, in Bot. Reg.*, 1844, *misc.* 11. Flowers very pale sulphur-yellow, with bright light crimson specks at the base of all the parts, lip included. Mexico. (Fig. 133, *lip and column, less than natural size.*)

124

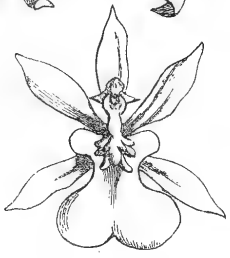


128

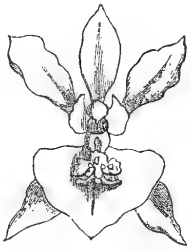


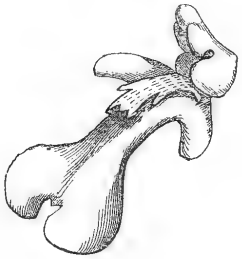
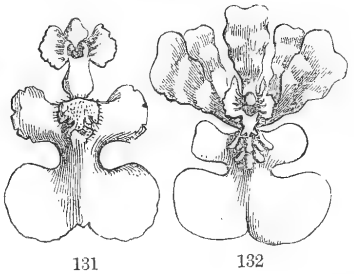
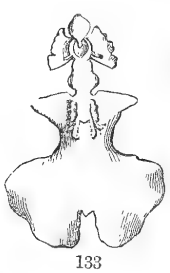
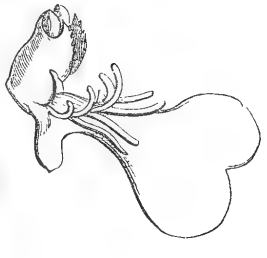
ONCIDIUM DIGITATUM. *Lindley, in Plantæ Hartwegianæ*, p. 94. Flowers green and white, the colour of *O. leucochilum*, of which it seems a variety, distinguished by the lip being less lobed, and the number of fingers nine of equal length, not five of which two are rudimentary. Guatemala. Fig. 134, *column and lip, natural size.*)

125



129



130 131 132 133 134

Lælia Perrini irrorata. This seems to be a distinct form of the well-known *L. Perrini*, an Orchid that has now become somewhat scarce, yet it is one of the handsomest of autumn flowers. We understand the plant under notice bloomed in the autumn of 1881 in the collection of W. Lee, Esq., at Leatherhead, and is thus described by Professor Reichenbach :—

A fine variety, of the lightest rose-colour. The lip nearly white with a pale yellow disk and a light purple apex.—*Gardener's Chronicle*, N.S., vol. xvi., p 717.

Nepenthes Northiana. When Henshel, who was so long out in the Eastern Hemisphere collecting for the Messrs. Rollisson, of Tooting, returned, he brought home dried specimens of pitchers that gladdened the eyes of all lovers of singular plants who saw them. And now at last, through the enterprise of Messrs. Veitch, there are living examples of most of the species he gathered, and possibly some others, in the country. The subject of our notice was figured in Borneo by Miss North, the lady whose name it bears, who had specimens brought from the limestone mountains of Sarawak, where they grew at an elevation of a thousand feet above the sea-level.

The mature pitchers are described as attaining a length of sixteen inches by five in width, subcoriaceous or membraneous, purple-spotted, elongate, cylindric, slightly curved, and with two membraneous dentate-fimbriate wings ; the mouth is elliptic elongated very oblique, four by one and three-quarter inches, and surrounded by a broad (two inches) everted, closely and finely ribbed margin or peristome ; the lid is ovate-oblong (four by one and a half inches), smooth, shining on the inner surface, where it is sprinkled with small black dots.—*Gardener's Chronicle*, N.S., vol. xvi., p. 717.

Campanula Allionii. The genus Campanula contains a number of the most beautiful hardy perennial plants we possess, many of which, in common with other hardy flowers, have been too long consigned to neglect, through the mistaken preference given to the showy but fleeting half-hardy bedding favourites that, although well in their way, have no right to a monopoly of place. There is great diversity of appearance in the many different species, from the well-known *C. rotundifolia*, the Hare-bell of our commons and waysides, to the stately *C. pyramidalis*, which is one of the most effective of border-flowers. *C. Allionii*, the subject of our notice, is indigenous to Savoy and Piedmont, and was introduced by G. Maw, Esq., of Brosely, Shropshire, to whom the lovers of herbaceous and Alpine plants are not a little indebted for what he has done in the introduction and cultivation of hardy plants. It is a dwarf species, and will most likely thrive under conditions such as are found to answer for other Alpine plants.

Rootstock subterranean, slender, creeping, sending out rather distant leafing and flowering stems three to five inches high. Leaves few, lower crowded or rosulate, one to two inches long, linear from a broad sessile base, slightly hairy or hispid, obtuse or subacute, quite entire, midrib distinct; there are often below the ordinary leaves a few obovate spathulate ones, which are the first formed on the shoots; cauline leaves one or two, like the lower but more erect. Flowering-stem rather stout, hispid, or glabrescent. Flower inclined or nodding, nearly an inch and a half long, and as broad across the mouth. Calyx-lobes ovate, or linear-lanceolate, acute, spreading and recurved, green, hispid, half as long as the corolla; sinuses with a reflexed broadly ovate hispid appendage. Corolla bright violet-blue, mouth open, tube hardly angled ; lobes triangular ovate, recurved, about one-third the length of the tube, slightly bearded at the tips. Stamens with a very short two-lobed pubescent filament, which is broader than long; anther slender. Ovary three-celled ; style short, slender, stigmas linear revolute.—*Botanical Magazine*, 6588.

THE CEYLON RHODODENDRON.
(RHODODENDRON ROLLISSONII.)

[Plate 43.]

THE CEYLON RHODODENDRON.

(RHODODENDRON ROLLISSONII.)

A Half-hardy Tree, from the MOUNTAINS OF CEYLON, *belonging to the Natural Order of* HEATHWORTS.

Specific Character.

THE CEYLON RHODODENDRON.—A small tree. Leaves short, oblong, acute, obtuse, or even heart-shaped at the base, wavy, very rugose and convex, revolute at the edge, covered beneath with close pale brown wool. Flowers in small heads. Flower-stalks woolly. Calyx obsolete. Corolla campanulate, slightly spotted. Ovary many-celled.

Rhododendron Rollissonii: *Botanical Register, t.* 25, 1843, *alias* R. zeylanicum *of the Gardens.*

THE following notice of this plant appeared in the *Gardener's Chronicle* for March 9, 1850:—

"This is now in great beauty in the open border, and proves to be a very fine thing, far surpassing, in my opinion, the old *Rhododendron arboreum*, or any of the numerous hybrid varieties that have originated from it. The rugged corky bark, and rough, wrinkled thick leaves, revolute at the margin, and clothed underneath with a somewhat rusty-coloured pubescence, give a peculiar character to the plant, by which it may be easily recognised. The head of flowers is round and compact, like that of *R. arboreum*, but the colour is much richer, being a deep blood-red, with a few dark spots at the bottom of the tube. The plant we have under the name of *R. Rollissonii* I consider to be identical with *R. zeylanicum*, although the former has not yet flowered with us. Both have been growing for several years in the open air, and although considered as being rather tender, they have been found sufficiently hardy to withstand 10 degrees of frost (the greatest cold experienced here last winter) without injury."

This letter was written by Mr. W. B. Booth, gardener to Sir Charles Lemon, Bart, M.P., at Carclew, near Penrhyn, in Cornwall, whence the specimens were received from which the accompanying drawing was made.

We are glad to reproduce a figure of this plant,—firstly, for the sake of making a highly interesting species better known; and, secondly, for the sake of removing the error of supposing that what is called *R. Rollissonii* is some hybrid form. It is nothing whatever except the wild Tree-Rhododendron of the Cingalese Hills. As far as our information now goes, it seems to be found nowhere else.

As a species, this differs manifestly from the other Indian Tree-Rhododendrons in its very peculiar leaves, which, instead of being long and narrow, and more or less flat, are broad and short, very obtuse, and even heart-shaped at the base, wavy, excessively wrinkled, and remarkably rolled back at their edge. The hairiness of their under-side is like neither the coarse brown shagginess of the Cinnamon Rhododendron, nor the close silvery surface of the Scarlet Tree-Rhododendron, nor the short pale-brown starry pile of the Campanulate Rhododendron. On the contrary, the fur, although copious, is of a pale-brown dull colour, and so close that it would not be taken for hairiness without a minute inspection.

There are now in general cultivation five very distinct races of Indian Rhododendrons, concerning which a few observations require to be made.

Firstly, we have the Old Scarlet Tree-Rhododendron (*R. arboreum*) with rich blood-red flowers, and long flat leaves, silvery underneath. Whether there is really any white variety of this, is uncertain.

Next, there is the Cinnamon Tree-Rhododendron (*R. cinnamomeum*), so well known by its long, flat, deep green, wrinkled, narrow leaves, covered beneath with a coarse, shaggy, rusty wool. This, originally published in 1824 by Dr. Wallich, and afterwards in 1837, as a variety of the Scarlet Tree-Rhododendron, in the Botanical Register, t. 1982, is chiefly known as a white-flowered plant. Nevertheless it varies to Rose colour, as is proved by the Neilgherry Rhododendron (*R. Nilaghericum*) which is figured in the Botanical Magazine, t. 4381; and which is absolutely identical, except in colour. We ought to state that this last was introduced by Messrs. Loddiges, and not by Lucombe and Pince of Exeter, to whom belongs no other credit than that of flowering it. Whether the *R. nobile* of Wallich, which we have not seen, is this or the Ceylon Tree-Rhododendron, is uncertain.

Then, there is the Bearded Tree-Rhododendron (*R. barbatum*), little known at present, but long since dispersed by Messrs. Loddiges, and which is remarkable for the coarse stiff hairs of the leaf-stalks.

After this species follows the Campanulate Rhododendron (*R. campanulatum*) with its broad flat leaves, cordate at the base, and short stellate rusty down; and finally we have

The Ceylon Rhododendron (*R. Rollissonii*), the subject of this article.

We are the more anxious to make this clear, because the wondrous discoveries of Dr. Hooker, and the new things come or coming from the islands of India, will render the Garden Botany of Asiatic Rhododendrons very difficult a few years hence. Nor can we say that it appears to be clearly understood even now.

THE SESSILE CYCLID.
CYCLOPIUM SESSILE.

[PLATE 44.]

THE SESSILE ONCID.

(ONCIDIUM SESSILE.)

A Stove Epiphyte, from PERU, *belonging to the Natural Order of* ORCHIDS.

Specific Character.

THE SESSILE ONCID.—Pseudo-bulbs two-leaved, oblong, compressed, ribbed. Leaves strap-shaped, papery, blunt, shorter than the scape, which bears a panicled raceme. Sepals distinct and petals equal in size and form, all sessile. Lip-eared, dilated at the end and retuse; its re-entering angles slightly lobed; the crest hollowed out, smooth, three-lobed, with two small edges in front. Wings of the calyx short and truncated.

A NATIVE of the country at the back of Santa Martha, whence it was sent to His Grace the Duke of Northumberland by Mr. Purdie. It flowered at Syon.

It is nearly related to the little known Excavated Oncid (*O. excavatum*), a Peruvian plant formerly in the possession of Messrs. Loddiges; but it is much handsomer, and may be regarded as one of the best of the little group to which it belongs. The Excavated Oncid differs essentially in the following circumstances: the flowers form a loose, and not a close or racemose panicle; the sepals are narrower than the petals, not of the same breadth, they are distinctly stalked (unguiculate), not perfectly sessile, and they are acute, not blunt like the petals; the hollow at the base of the lip is much more considerable, and covered with little frosty specks, but here it is quite smooth; there are a few scattered tubercles on each side of the hollow, but here there are none; and the wings of the column are much larger, rounded and not truncate.

The habit of this species is that of the Lofty Oncid (*O. altissimum*) on a small scale; the leaves have the same firm thin texture; and the flowers are in a narrow panicle. The sepals and petals are remarkable, in this genus, for their total want of the stalk or unguis so generally characteristic of Oncids; instead of which they sit close round the column, and give the flower something of the roundness and flatness obtained by art in what are called

florist's flowers; they are clear yellow, with a few pale cinnamon-brown spots near the base. The lip has one curved stain of the same colour on each side near the base.

This, the Excavated Oncid, with several others, forms a group in the genus readily known by the sepals being perfectly distinct from each other, and smaller, or at least not larger, than the petals,—or if broader considerably shorter—contrary to what is usual among the neighbouring species. Hence, in the table published with our 26th plate (vol. i., page 134) they stood as a sixth section under the name of PENTAPETALA MACROPETALA. Of that section we will avail ourselves of the opportunity to give an enumeration.

VI. PENTAPETALA MACROPETALA.

1. O. convolvulaceum.

O. rhizomate volubili filiformi, pseudobulbis secus rhizoma distantibus compressis subrotundis monophyllis, folio plano sessili ovato-oblongo obtuso mucronulato, pedunculis basi squamatis unifloris folio subæqualibus, sepalis liberis petalisque latioribus oblongis acutis patentissimis, labello maximo bilobo baseos auriculis linearibus apice dilatatis rotundatis, cristâ elevatâ truncatâ utrinque lobatâ verrucis a 2 fronte, columnæ alis acutè truncatis.

Native country, *Venezuela.* Herb. Linden, No. 1444, from the voyage of Funck and Schlim.

This most curious plant has the habit of a Bolbophyl rather than of an Oncid, agreeing in that respect with the very different *O. serpens.* On a hard twining rhizome appear at the distance of 3 or 4 inches, one-leaved pseudobulbs usually springing from the axil of a small leaf; these pseudobulbs are thin, nearly round, scarcely an inch long, and each bear a solitary flat leaf about 2 inches long. The flowers, which are nearly 2 inches in diameter, grow singly on peduncles scarcely longer than the leaves; they appear to be spotless, but their colour is unknown.

2. O. excavatum, *Lindl. in Sert. orch. sub t.* 25. *B. Reg.* 1839., *misc.* 150.

O. pseudobulbis . . . ., foliis oblongo-ligulatis . . . ., scapo paniculato, bracteis squamiformibus membranaceis acutis, sepalis lateralibus obovatis liberis supremo concavo acuto, petalis membranaceis oblongis basi angustatis, labello sessili pandurato apice rotundato emarginato sellæformi basi cordato convexo fornicatim excavato, cristâ tuberculatâ, columnæ alis oblongis rotundatis.

Native country, *Peru.*

This has yellow flowers, spotted with brown, and is easily known by the base of the labellum being very convex, a little hollowed out in front, and excavated with a deep pit on the under side.

3. O sessile, *of this Plate.*

4. O. sarcodes, *Lindl. in Journ. Hort. Soc.* iv. *p.* 260; *alias* O. Rigbyanum, *Paxton Mag., Oct.* 1849.

O. paniculâ racemosâ angustâ, sepalis liberis obovatis planiusculis, petalis majoribus unguiculatis obovato-spathulatis repandis, labelli lobis lateralibus nanis serrulatis intermedio maximo undulato repando emarginato, cristâ lineari apice bilobâ tuberculosâ pubescente, columnæ pubescentis clinandrio angustè marginato alis carnosis truncatis glabris.

Native country, *Brazil.*

The habit of this species is entirely that of *O. pubes* and *O. amictum*. The flowers are large, bright yellow, blotched with brown-red; the column white, with blood-red fleshy truncated wings. In structure it approaches nearly to *O. ampliatum* and *excavatum*, from which its downy column, serrated side lobes of the lip, and peculiar two-lobed hairy crest abundantly distinguish it. Like so many others, it varies much in the size and colour of its flowers.

5. O. ampliatum, *Lindl. Gen. et Sp. Orch., p.* 202. *B. Reg. t.* 1699.

O. pseudobulbis subrotundis ancipitibus rugosis maculatis diphyllis, foliis oblongis coriaceis planis subundulatis scapo paniculato brevioribus, sepalis omnibus liberis, labello bilobo subrotundo transverso: laciniis lateralibus brevissimis, callo baseos 5-lobo lobis lateralibus patentissimis planis truncatis intermediis teretibus centrali compresso, alis columnæ cuneatis dentatis reflexis.

Native country, *Panama and Guatemala.*

A noble species, of which there are two varieties, one much larger than the other. According to Mr. Skinner it comes from Costa Rica, on the sea-shore in the Gulf of Nicaya; and is also found throughout the coast of Nicaragua, and in the Escuintla, 15 leagues from Guatemala; growing in a climate the temperature of which does not rise above 80° or 85°; flowering in February.

6. O. onustum, *Lindl. Gen. et Sp. Orch., p.* 203.

O. foliis linearibus complicatis falcatis, scapo simplici, racemis cernuis secundis multifloris, sepalis omnibus liberis, labello bilobo transverso: lobis lateralibus linearibus apice subdilatatis, callo baseos oblongo cochleato anticè appendiculâ tuberculiformi instructo, alis columnæ 2 integerrimis.

Native country, *Panama and Colombia.*

Flowers (apparently whole-coloured) in a simple curved raceme 3 or 4 inches long.

7. O. stramineum, *Lindl. B. Reg.* 1838, *misc.* 63, 1840.

O. ebulbe, foliis crassis carnosis ovato-lanceolatis acutis dorso rotundatis scapo paniculato rigido erecto brevioribus, sepalis subrotundis unguiculatis concavis liberis integerrimis, petalis duplò majoribus oblongis obtusis emarginatis margine crispis, labelli lobis lateralibus oblongis carnosis acutis margine revolutis basi columnæ proximâ nectariferis intermedio reniformi plano emarginato longioribus, tuberculis disci 4 geminatis, columnæ alis carnosis linearibus obtusis elongatis genuflexis decurvis.

Native country, *Mexico.*

Leaves short, fleshy, stiff. Flowers in a dense panicle, pale straw-colour, with a few dark dots on the lip.

8. O. pyramidale, *Lindl. in Ann. Nat. Hist.* xv.

O. pseudobulbis ovatis ancipitibus 2—3-phyllis, foliis oblongis tenuibus basi angustatis scapo erecto rigido paniculato pyramidali multo brevioribus, sepalis obtusis liberis dorsali ovali lateralibus linearibus, petalis duplo latioribus ovatis obtusis, labelli lobis lateralibus amplexicaulibus intermedio bilobo latioribus, crista anticè excavata processubus 7 (?) linearibus anticis longioribus, columna nana alis verticalibus lineari-cuneatis sublobatis, rostello subulato.

Native country, *Peru*, near Pasto in the woods of Menesco, on trees.

Allied to *O. excavatum*, but with the rostellum of *O. ornithorhynchum*. Scape six inches high. Panicle not more than 4 inches across, and fully a foot long.

9. O. lancifolium, *Lindl. in Plant. Hartweg.*, p. 151.

O. pseudobulbis oblongis compressis, foliis lanceolatis acutis scapo stricto apice paniculato brevioribus, ramis valde flexuosis, sepalis linearibus obtusis, petalis obovatis subundulatis duplo latioribus, labelli basi obcuneati lobo intermedio transverso reniformi bilobo, cristæ tuberculis plurimis carnosis ramentaceis, columnæ recurvantis basi biauris alis maximis acinaciformibus subserratis undulatis.

Native country, *Peru*, on the Cordillera near Loxa.

Leaves not more than 6 inches long. Scape about 6 inches high. Panicle oblong, close, not quite so long. Flowers small, apparently yellow speckled with purple in the middle.

10. O. Jamiesoni.

O. pseudobulbis . . . . , folio carinato complicato, paniculâ effusâ ramulis divaricatis, floribus heteromorphis pluribus abortientibus, sepalis linearibus obtusis rectis, petalis duplo latioribus oblongis obtusis subundulatis, labello auriculato apice semicirculari bilobo, cristæ tuberculis 5 parvis duabus lateralibus patentissimis cæteris subparallelis intermedio productiore, columnæ alis oblongis erectis rotundatis.

Native country, *Peru*, near Quito.

A handsome species, with flat yellow flowers, having broken bands of brown at the base of the petals and nowhere else. The wings of the column are not unlike a bat's ears. Many of the flowers are abortive in this and some other Peruvian species, and form little irregular starry bodies among the rest. Received from Dr. Jamieson of Quito.

---

11. O. Papilio, *L.*, p. 203. *B. Reg.*, t. 910. *B. M.*, t. 2795. *B. Cab.*, t. 1086.

O. pseudobulbis subrotundis compressis rugosis monophyllis, foliis oblongis coriaceis obtusis maculatis, scapo perennante debili ancipiti articulato apice paucifloro, sepalo supremo petalisque linearibus longissimis basi angustatis, sepalis lateralibus latis revolutis undulatis labello longioribus, labelli laciniâ intermediâ oblongâ emarginatâ subrotundâ crispâ basi valde angustatâ lateralibus rotundatis, cristæ glandulis formam ranæ cubantis referentibus, columnæ alis serratis.

Native country, *Trinidad*.

It must be confessed that this well-known species has no resemblance to the others here associated with it. It probably should form a section (or genus?) by itself.

GLEANINGS AND ORIGINAL MEMORANDA.

VERONICA CARNOSULA. A shrubby Speedwell from New Zealand, bearing compact terminal heads of white flowers very distinct in appearance. It possesses a branching habit, and blooms out in the open air in summer, but is not quite hardy.

A small robust much-branched erect or decumbent whitish shrub, glabrous or nearly so; branches scarred by the fall of the old leaves. Leaves spreading and imbricate, one-fourth to one-half of an inch long, sessile, elliptic or obovate, obtuse, quite entire, concave, very thickly leathery, without midrib or nerves on either surface. Spikes subglobose, axillary, peduncled, three-fourths of an inch in diameter; peduncle stout, longer or shorter than the leaves. Flowers white, sessile, one-third of an inch in diameter; bracts coriaceous, oblong, about as long as the oblong calyx segments; both puberulous. Corolla-tube very short; lobes spreading, two lateral and anticous rounded obtuse, posticous oblong rounded at the tip. Anthers reddish-yellow. Capsule (in dried specimen) ovoid, acute, glabrous.—*Botanical Magazine*, 6587.

ARISTOLOCHIA ALTISSIMA. Of all climbing plants, there are none which bear more singular flowers than the Aristolochias, as witness the tender species *A. gigas* and *A. ornithocephala*, which unfortunately require the temperature of a hothouse continuously. The subject of our notice is much smaller in all its parts than the two preceding species, but nevertheless deserving of being grown from its being sufficiently hardy to live through our winters out of doors, with the roots protected with a mulching of dry material, although the tops are killed down by severe frost. It appears to be indigenous to both Algeria and Sicily. The flowers are pale dull yellow, striped with reddish-brown. The habit of the plant is elegant, and altogether it is an acceptable addition to our out-door climbers. Ordinary well-drained soil, in a warm sunny position, will answer for it.

A glabrous slender twiner, growing eight feet high, copiously leafy. Stem woody below, branches six-angled. Leaves petioled, two to three inches long, ovate-cordate obtuse or acute, waved, thinly rigid, bright glossy green, basal lobes rounded, sinus broad or narrow, nerves five to seven strong beneath, both surfaces finely reticulated; petiole one-half to three-quarters of an inch long. Flowers on slender pedicels, about half as long as the leaves. Ovary club-shaped, pubescent, six-ribbed. Perianth about one and a half inches long, curved almost in a semi-circle, pale yellow-brown, striped with dark red-brown; utricular base of the perianth globose, tube gradually enlarged from the base to the elongate ovate oblique limb, which is obtuse and yellow within, margins recurved. Crown of stigma very short, of six small broadly ovate lobes, beneath which is a ring of small sessile anthers.—*Botanical Magazine*, 6586.

RHODODENDRON MYRTIFOLIUM. *Schott.* A hardy evergreen shrub from the Alps of Southern Transylvania. Flowers red. Cultivated in the Garden of Schönbrunn.

This bush has been mistaken, according to Schott, for an Alpine form of *Rhododendron ferrugineum*. It is described thus:—Leaves minute, ovate or obovate elliptical, obtuse, rolled back at the edge and slightly crenelled, with a small point at the end; smooth, wrinkled, and dark green on the upper side, covered with a coarse shaggy wool on the under. Flowers in short racemes, about five together, with their stalks covered by a coarse scurf. Teeth of the calyx very short. Corolla funnel-shaped, the tube hairy outside, with some scattered scurf, the segments rounded, elliptical, smooth on each side near the rim, the throat shaggy, filaments hairy at the base, otherwise smooth. Style rather shorter than the ovary. Capsules lifted upon the lengthened peduncles above the leaves, and crowned by a short style. —*Botanische Zeitung*, 1851, 17.

PIMELEA MACROCEPHALA. *Hooker.* A stiff glaucous greenhouse shrub, with large nodding heads of cream-coloured flowers. Native of Swan River. Belongs to Daphnads. Introduced by Lucombe & Co. (Fig. 135.)


135

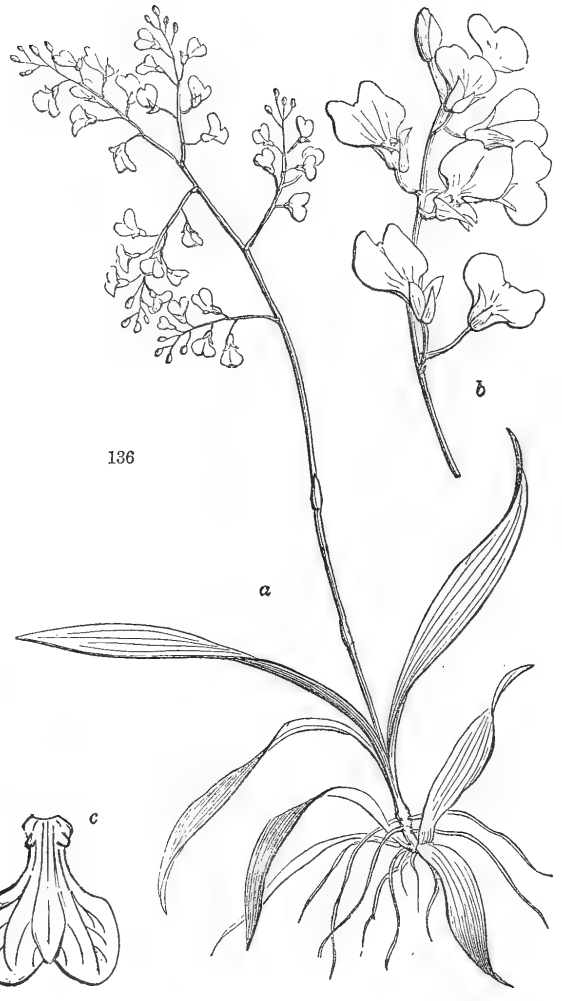
One of the many Swan River plants raised from seeds received from Mr. Drummond. Perhaps its nearest affinity is with *P. tinctoria*, Meisn., though the leaves do not change to the very peculiar green described as characteristic of that species, and it wants several other distinguishing marks. It is a highly interesting addition to our greenhouse plants, easy of culture, and free to blossom in the summer months. Shrub two to three feet high, somewhat simple, or fastigiately branched ; branches erect, smooth, rather robust (for a *Pimelea*), reddish below, green above, terete, leafy up to the involucre. Leaves opposite, smooth, the upper ones, especially, erect and secund, all of them large for the genus, and thick, rather leathery, broad-lanceolate, glaucous, acute, sessile; lower ones more spreading. Involucre of four to six leaves, larger and broader than the stem ones, shorter than the flower-head. This latter is two inches and a half across. Flowers numerous, dense, very pale rose (cream) colour. Calyx-tube slender, long, downy, articulated on the truncated summit of the ovary ; the segments oblong, spreading or recurved, ciliated at the margins. Stamens and style much exserted. Anthers orange.

"An Australian genus consisting of slender twiggy shrubs, and now numbering above fifty described species. The greater number are natives of Van Diemen's Land and the extra-tropical coasts of Australia, many being found at Swan River and at King George's Sound on the south-west coast: a few extend northward to within the tropics, and several are natives of New Zealand. About twenty species are known to have been introduced into the gardens of this country. The first was *P. linifolia* in 1793, followed by *P. rosea* in 1800 ; between the latter year and 1823, *P. drupacea* and *P. pauciflora* were introduced : the first two, being pretty flowering species, were frequent inmates in the greenhouse, whereas the two latter, having inconspicuous flowers, were seldom seen, except in collections where rarity and number of species were desired. In 1823 we were so fortunate as to raise plants of *P. decussata*, which, on account of its being of neat habit and a free and showy flowering species, soon became a favourite with cultivators, but has of late been in some measure superseded by its more showy rival, *P. spectabilis*, which was introduced some years later. The species now figured is of recent introduction, and, from what we know of it, will turn out to be another showy species. It is, like its allies, a greenhouse plant, and grows vigorously if planted in turfy peat-soil, containing a little loam, and kept sufficiently drained. Over-watering is undesirable, especially during dull damp weather in winter and spring ; and in hot weather the sides of the pot must not be exposed to the direct rays of the sun. It will propagate by cuttings, placed under a bell glass, and treated in the usual way, but it has been found to produce the best plants if grafted on stocks of *P. decussata*." —*Bot. Mag.*, t. 4543.

IONOPSIS TENERA. *Lindley.* A very pretty stove Orchid from the West Indies, with panicles of delicate white or pale lilac flowers. (Fig. 136, *a*, a diminished figure; *b*, flowers little more than natural size ; *c*, lip magnified.)

This seems to be common upon trees in many parts of the West Indies. It was first brought to notice by Sir Charles Lemon, who received it from the Havannah. It has been beautifully flowered by Messrs. Henderson, of the Pineapple Nursery, who produced it at a meeting of the Horticultural Society, having obtained it from Jamaica. It also occurs among Mr. Linden's dried plants, No. 484, from the Caraccas, where it was found by Fruck and Schlim. It is not impossible that it may be no more than a large-lipped variety of *I. utricularioides*, a plant we have long lost sight of ; but, until that can be certainly ascertained, the name should not be disturbed. If it shall turn out that these must be regarded as one species, then we suspect that *Ionopsis pallidiflora* will also have to be abandoned. What must be done, however, before any good opinion upon such a point can be given, will be to ascertain the exact state of the lip in all these plants. At Fig. *c* is a correct representation of what exists in the species now figured from Jamaica, and in those from Havannah, and the Caraccas, viz. : two small narrow ears stand at the very narrow rounded base of the lip ;

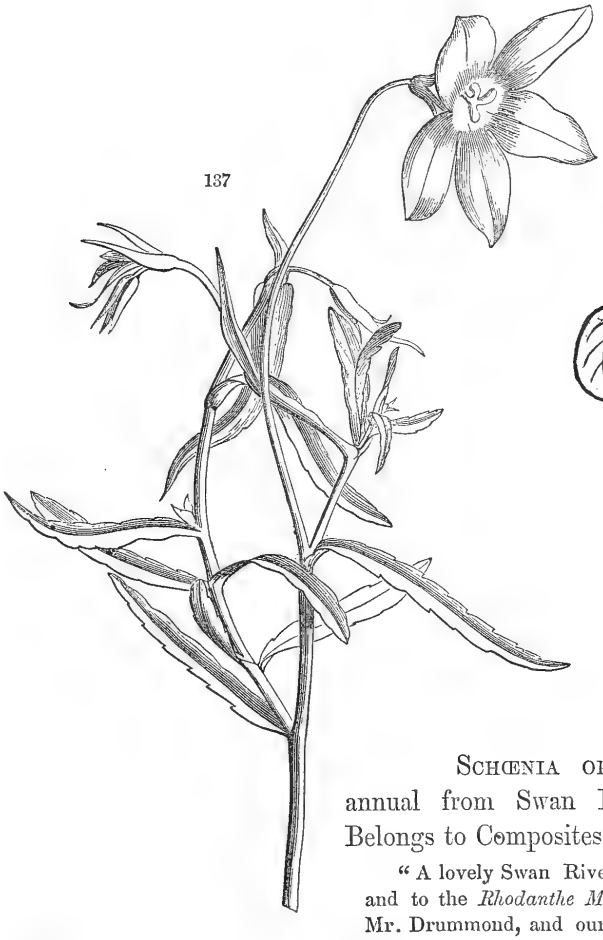
Ion. pallidiflora seems to have the same structure. The same thing is found in the widely different *Ion. paniculata*, and in *I. Gardneri*, another Brazilian species (No. 5875 of *Gardner's Herbarium*). In *I. pulchella* there are also two ears, but they stand on the lip far in advance of the very small unguis. On the other hand in *I. zonalis*, a very remarkable plant, with a band of deep violet at the base of the lip, flowered in 1848, by Mr. Alderman Copeland, there are four such ears.



136

WAHLENBERGIA VINCÆFLORA. *Decaisne.* (*alias* Campanula vincæflora *Ventenat.*) A hardy annual (or perennial), with rich azure blue, white-eyed flowers. Belongs to the Bellworts. Native of New Holland. (Fig. 137.)

This was originally introduced by the French many years ago, and published by Ventenat in his account of the plants at Malmaison. There it was lost. It has now been recovered, and promises to become a fine decoration for our garden. Properly speaking it is a perennial; but if so treated, its roots must be taken up and kept in a greenhouse in winter, for it cannot bear frost. It is, however, a very nice hardy annual, flowering about six weeks after being sown, provided it is put into a warm light soil, and the seeds are scarcely covered. The flowers are very pale on the outside, bright azure blue inside, furnished near the middle, and at the base, with a line of very delicate white hairs; the tube is yellowish.—See *Revue Horticol.*, III., 41, where it is described by M. Decaisne.

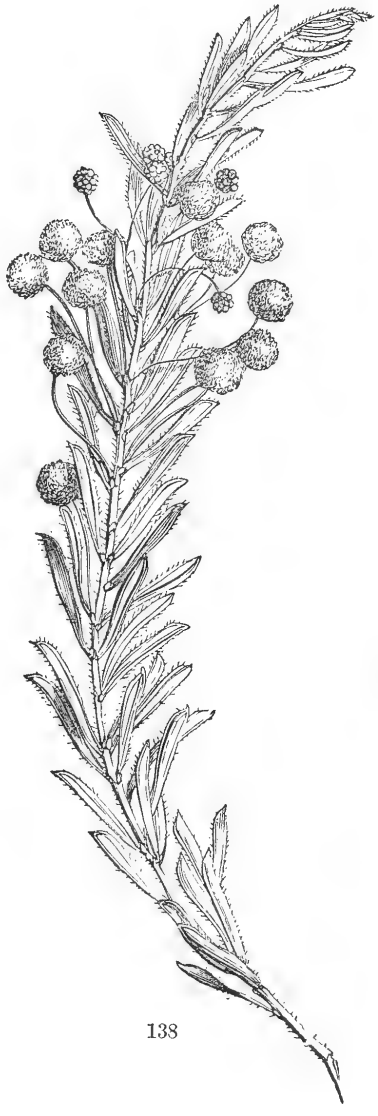

137

SCHŒNIA OPPOSITIFOLIA. *Steetz.* A very pretty, hardy, annual from Swan River, with bright rose-coloured flower-heads. Belongs to Composites. Introduced at Kew in 1846.

"A lovely Swan River annual, quite equal in beauty to the *Lawrencella rosea* and to the *Rhodanthe Manglesii* of the same colony. Seeds were sent to us by Mr. Drummond, and our earliest plants blossomed in April, 1846. The genus is founded by Steetz; and is nearly allied to *Helichrysum*, *Helipterum*, and still more to *Pteropogon* of De Candolle, from which it is said to differ by the inner scales of the involucre being appendaged and radiant, by the many-flowered

capitula, and by the central florets being truly male. The generic name is given in compliment to Dr. Schœn, an excellent botanical artist."

"This plant must be treated as a tender annual. Its seed should be sown in spring, in a pot or pan of light soil, placed in moderate heat; the plants, as soon as they are of sufficient size, must be transplanted singly into small pots, and kept for a time in a close frame, admitting air gradually to harden them; and as they become larger they must be shifted into larger pots, and, in order to have a greater show of flowers, four or five plants may be placed in one pot. When in flower they may be placed in the greenhouse."—*Botanical Magazine*, t. 4560.

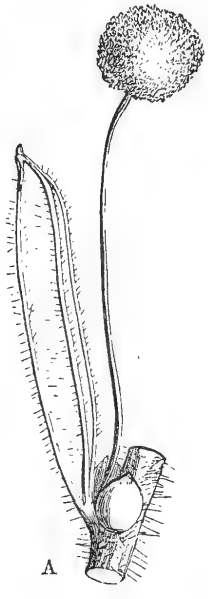


138

ACACIA LINEATA. *A. Cunningham.* A greenhouse shrub, from New South Wales, with heads of yellow flowers. Belongs to Leguminous plants. (Fig. 138; A, a magnified leaf and stipules.)

There is a figure of this plant in the *Botanical Magazine*, t. 3346; but it represents it in a glandular state very different from this. We find it to be a dwarf greenhouse shrub, flowering in March, without glands, but with a grey loose hairiness. The false leaves, or phyllodes, are linear, obtuse, a little hooked at the point, with a single rib running along the middle, but much nearer the upper than the lower edge. There is a very slight trace of a glandular depression on the false leaves, a little above the base, neglected in our figure.

PHALÆNOPSIS STUARTIANA. This has all the appearance of being a hybrid, and if so of natural origin. The plant was discovered by Mr. Boxall, one of Messrs. Low's collectors, but the exact locality has not been told.



A

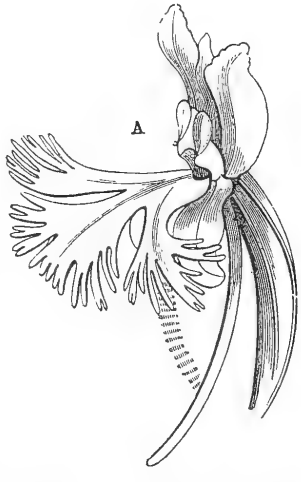
It may be described as intermediate in appearance between *P. amabilis* and *P. Schilleriana*. The leaves are slightly marbled like the latter, but the markings disappear as they get older. The panicle of flowers is much-branched and very large. In its native habitat one, on a medium-sized plant, was counted bearing a hundred and twenty flowers, which individually were nearly as large as those of *P. amabilis*. In form they resemble *P. Schilleriana*. The ground-colour is ivory-white, except the lower halves of the sepals, which are sulphur-yellow, thickly dotted over with reddish-brown. The lip also is spotted with the same colour.

PHALÆNOPSIS STUARTIANA NOBILIS. A distinct form of *P. Stuartiana*, and superior to it, so far as can be judged from plants only recently imported, and that have not yet had time to regain near their full strength—a condition in which both this and *P. Stuartiana* were in when we saw them. The white ground-colour is purer, and altogether devoid of the yellow tinge present on the sepals of *P. Stuartiana*, which throws up the beautiful spotting more plainly. Both are charming additions to the lovely genus to which they belong, and Messrs. Low may be congratulated on thus further adding to the numbers of sterling novelties with which they have enriched the gardens of this country.

Platanthera incisa. *Lindl. Gen. and Sp. Orch.* 293 (*alias* Orchis incisa, *Willd; alias* Habenaria incisa, *Sprengel*). A hardy herbaceous Orchid from N. America, with cylindrical spikes of purple flowers. (Fig. 139; A, a magnified flower.)

One of the large race of terrestrial Orchids, furnished with tubercles for roots, of which N. America possesses many, representing in its forest grounds and prairies the common Orchids of Europe. The present is one of the rarer species, with purple flowers, having the lip deeply divided into three lobes, each of which is gashed and slit at the edge. It is nearly allied to the more common *Pl. fimbriata*, the flowers of which are larger, and the petals themselves deeply fringed. The stem of this plant is from 1½ to 2 feet high, covered with leaves like those of the Male Orchis (*O. mascula*), but not spotted. The flowers themselves are of a deep lilac colour; and the bracts are so narrow and short as not to be observable among the flowers. The specimen from which the accompanying figure is taken was received in July, 1847, from Mr. Joseph Ellis, gardener to Henry Wheal, Esq., of Norwood Hall, near Sheffield.

Thibaudia macrantha. *Hooker.* A shrub of great beauty, from the jungles of India. Flowers drooping, very large, pale pink with blood-red veins. Belongs to the Cranberries (*Vacciniaceæ*). Introduced by Messrs. Veitch.



We represented what we considered to be the Prince of the East Indian *Thibaudias* in our Tab. 4303 (*T. pulcherrima*), and in the rich abundance of its handsome flowers it has the superiority over this: but here, each individual flower is much larger and handsomer than in that species. We have measured these flowers two inches and a quarter long, and one inch in diameter; the texture and marking resemble some handsome piece of china or porcelain. The plant was raised from seeds by Mr. Veitch, from Kola Mountain, Moulmain, whence they were sent by Mr. Thomas Lobb. It accords with many of the characters of *Thibaudia* (*Agapetes*, De Cand.) *loranthifolia*, Wall.; but that species is downy, and differs in other points. We have rarely seen a more truly lovely plant. It flowered in the stove of Messrs. Veitch in December, 1850. Leaves on very short thick petioles, lanceolate, much acuminated, entire, glabrous. Flowers from the woody portion of the stem, extra-axillary. Two or three peduncles spring from the same point, and are pendent, thickened upwards, and red. Flowers large, and hanging down. Calyx small, pale yellow. Corolla large, pure china-white, yellow at the base and apex; the tube barrel-shaped, five-angled; between the angles are numerous distinct, oblique, wavy red lines, generally taking the shape of the letter V, and more or less united: the mouth of the corolla is contracted: the five acute lobes reflexed. Stamens and style considerably exserted beyond the mouth of the corolla. We learn that it is an evergreen shrub of easy cultivation, and that it flowered when not more than two feet high. It is treated as a stove-plant; but judging from its allies and from its native climate, we are inclined to think it will succeed in a close greenhouse. Like many species of this family, the present is probably subepiphytal, deriving its chief nourishment from an atmosphere charged with moisture, and at a medium temperature; such being the general character of the lower region of *Ericaceæ* and *Vacciniaceæ* within the tropics.—*Botanical Magazine*, t. 4566.

Lygodictyon Forsteri. A strong-growing very handsome climbing Fern, from the South Sea Islands. Distinct in appearance; in habit like the Lygodiums, but with more massive fronds. The plant promises to be a free grower, requiring treatment suited to

other Ferns that come from warm countries, including brisk heat during the season of growth, with a moderately moist atmosphere, a fair amount of root room, and plenty of water at the roots whilst growing, and never to be allowed to get dry even in the winter. It was shown at South Kensington in January, 1882, by Mr. Kettle, gardener to H. E. Green, Esq., Kingsford Stanway, Colchester, and was awarded a First-Class Certificate.

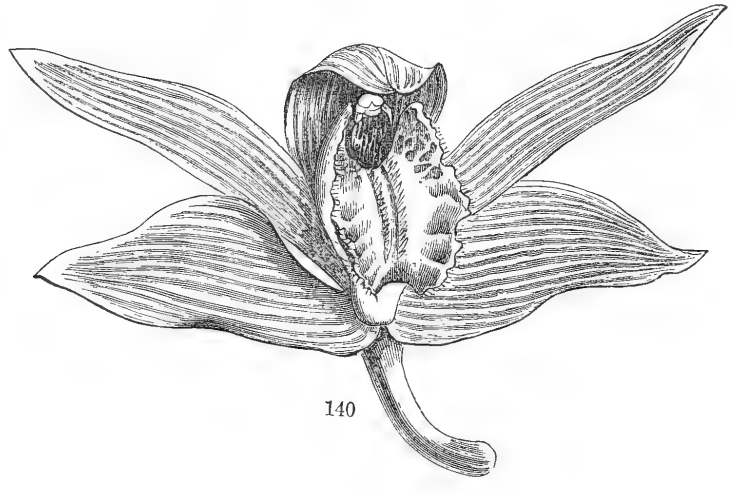
Pinnate fronds, firm in texture, bright green, varying in form according to age, the segments being lance-shaped from a square base, each on a very short stalk, wavy, and finely toothed at the margin. Fertile segments shorter and broader, bearing small oblong fruit spikes in rows on the margin, like so many blunt teeth. It is the *Lygodium reticulatum* of Schkhur, and of Hooker and Baker's synopsis (1868), p. 438.—*Gardener's Chronicle*, N.S., vol. xvii., p. 44.

PITCAIRNIA CORALLINA. There are only a few species of this division of flowering Bromelliaceous plants that have ever become fashionable in gardens, and amongst those hitherto grown there are none at all approaching this for the effective appearance of its brilliant drooping panicles of flowers. The plant in appearance is a good deal like the well-known *Curculigo recurvata*, its leaves assuming much the same position, recurving elegantly, and giving it a vase-like form. They are also deeply plaited, similar to those of the Curculigo. The flower-spike is produced from the crown of the plant, and takes a drooping position; the flowers are bright red in colour. The plant from which the annexed description is taken was grown and flowered by Mr. Green, gardener to Sir G. MacLeay, Pendell Court, Bletchingly. It comes from New Granada.

Leaves without any marginal spines, with an erect petiole about a foot long, which is margined by small decurved horny brown spines, plicate like the leaf of a Curculigo, recurving abruptly about the middle when mature. Peduncle rising from the base of the tuft of leaves, about a foot long, bright red like the flowers. Raceme drooping, a foot long. Sepals lanceolate, horny, an inch long. Petals lingulate, furnished with a large oblong basal scale. Stamens as long as the petals; filament white, filiform; anther linear, half an inch long; pollen yellow. Ovary ampullæform; style filiform, about two inches long; stigmas spirally twisted.—*Botanical Magazine*, 6600.

CYMBIDIUM GIGANTEUM. *Wallich.* A noble terrestrial Orchid, native of Nepal. Flowers deep warm yellow, with a richly spotted brown lip. (Fig. 140, *a flower, natural size.*)

This is one of the most stately of Indian Orchids, producing strong, stiff, sword-shaped leaves in two rows, which of themselves render the plant a noble object in the stove. The flowers add to this by their rich warm colours and large size. They appear at the end of a drooping scape about a foot and a half long, and covered with loose scales towards the base. Each is of the size represented in the accompanying cut, but turned upside down. The sepals and petals are of a clear rich orange yellow; while the lip, which is bearded in the middle and at the edge, is richly mottled with cinnamon-brown. Owing to some error of observation, upon bad-dried specimens, we formerly reported the anther not to be articulated with the column as is usual (see *Gen. and Sp. Orch.*, p. 163), but the fresh specimens show that the structure differs in no particular whatever from that of other genuine Cymbids.



140

DARK COLOURED VARIETY OF THE AUTUMNAL LÆLIA
(LÆLIA AUTUMNALIS, VAR. ATRO-RUBENS.)

[PLATE 45.]

DARK-COLOURED VARIETY OF THE AUTUMNAL LÆLIA.

(LÆLIA AUTUMNALIS, VAR. ATRO-RUBENS.)

A Beautiful Epiphyte, from MEXICO, *belonging to the Natural Order of* ORCHIDS.

Specific Character.

LÆLIA AUTUMNALIS. – Pseudo-bulbs oblong-lanceolate, obscurely four-rowed, with two opposite blunt edges, otherwise nearly terete, sheathed with large imbricated, closely-applied scales, and crowned with two leaves, which do not exceed five inches in length, oblong, obtuse, coriaceous, smooth. Scape from between the two leaves, a foot and a half to two feet high, terete, jointed, with sheathing scales at the joints, terminating with from two to four flowers, which are large, showy, and fragrant. Perianth very similar to that of *L. anceps*, but destitute of the green rib. Lip with two large, erect, whitish side-lobes, and an obovate, obtuse, apiculated, deep purple intermediate one; in the disk are two very distinct, upright, membranaceous long lamellæ, or plates; column semi-cylindrical; pollen masses with the four superior lobes obcordate, the four lower ones smaller, semi-obcordate.

Botanical Magazine, 3817.

THE plant here figured is an evidence of the divergence in colour from that of the type species often existent in Orchids, as the subject of our plate in no way differs from the original *L. autumnalis*, except in its extraordinarily deep colour—a condition, it may be remarked, of little account to botanists, but highly prized by cultivators, as proved by the extremely high prices which these rare coloured novelties usually command. This beautiful Lælia was exhibited by Mr. Bull, before the Floral Committee of the Royal Horticultural Society, during the autumn of 1881, who unanimously voted it a First-Class Certificate, a mark of excellence which it well deserved. The colour of the flower when first open is intensely deep ruby-purple; when more fully developed the lower part of the petals and sepals assumes a paler hue. In all its stages it is a lovely flower. It is of large size, the petalite and sepalite segments being broad and stout in substance. No doubt it will succeed under similar conditions of heat and moisture to the original species, which, like a good many other Orchids indigenous to the cooler parts of Mexico, have been doomed

to slow, but nevertheless certain, destruction through keeping them too hot and the atmosphere around them overcharged with moisture—conditions which are most deceptive with Orchids as a whole, as they not unusually for a time induce a greater development in the leaves than is natural, which is often mistaken as an indication of strength, but generally is the forerunner of an enfeebled state, followed by disease. But we are glad to see that the injurious effects of such treatment have at last been so far realised that a more rational course is being adopted. In common with most of the truly Epiphytal species, these Lælias do the best when their roots have not too much moisture-holding material within their reach. They succeed on a block of wood with a covering of sphagnum, or they do equally well in baskets or pans, which in either case ought to be shallow, and three parts filled with drainage, over which nothing but the fibrous matter from the best peat, and sphagnum, should be used. If the plants are grown in ordinary pots, these should be filled to within two inches of the top with drainage material, leaving only room for a thin covering of the soil. Whatever is used, be it blocks, pans, or pots, it is of the greatest consequence that the plants shall be kept close to the glass in a light house, and have air freely admitted to them for a time daily through the growing season when the weather will permit. During this time they need to be well supplied with water, and as the flowers are produced from the mature growth before the period of rest comes on, they must not be kept so dry after the growth of the leaves and pseudo-bulbs is complete as in the case of such species as bloom after their winter's rest. When the flowering is over, they should be kept drier through the winter, until the time of growth again comes round. The coolest end of the Mexican house will answer for them whilst at rest, and also during the season of growth.

This beautiful plant is one of Mr. Bull's importations, and we are indebted to him for an opportunity of figuring it.

THE UPRIGHT BRYANTH.
(BRYANTHUS ERECTUS.)

[PLATE 46.]

THE UPRIGHT BRYANTH.

(BRYANTHUS ERECTUS.)

A Hardy Evergreen Dwarf Shrub, of UNCERTAIN ORIGIN, *belonging to the Order of* HEATHWORTS.

Specific Character.

THE UPRIGHT BRYANTH.—Stem erect, much branched. Leaves linear, obtuse, obscurely serrated. Flower-stalks hairy. Flowers solitary, corymbose. Sepals acute, smooth. Corolla campanulate, tubeless, acutely five-lobed. Style projecting.

Bryanthus erectus: *of the gardens.*

THIS charming little bush is said to be a hybrid, obtained by Mr. Cunningham, of Comely Bank, Edinburgh, between the Blue Phyllodoce (*P. taxifolia*, alias *Menziesia cærulea*) and the Cistus Rhododendron (*Rhodothamnus Chamæcistus*). Whatever its origin, it is certainly one of the most lovely plants that our gardens know. The specimen from which the accompanying figure was taken formed a round compact bush as large as a man's head, covered for a long time with the most delicate rose-coloured flowers, resembling miniature Kalmias. It was in perfection in April in the Garden of the Horticultural Society, where it was grown with the Cistus Rhododendron itself.

Such plants, although capable of bearing any degree of cold, are found difficult to cultivate on account of their impatience of dry air. Hence it is impossible to keep them in health in the open ground in ordinary places in London. The north side of walls, where the sun never shines, and low, but thoroughly drained places, are where they succeed best. Better still are damp, cold, shaded pits in which the air always remains damp; it was in such places that Mr. Gordon grew them in the Garden of the Horticultural Society.

And now for the question is this really a hybrid, or such a one as is pretended.

A correspondent well acquainted with the practical results obtained by muling says that—"If *Rhododendron Chamæcistus* were to breed with *Menziesia cærulea*, the mule would differ from *Bryanthus erectus*, as will be evident from comparing the three." We have taken some pains to institute a fair comparison between them, and the result is that we believe the plant to be a mule, probably deriving its parentage in part from the Cistus Rhododendron, and in part from some sort of Phyllodoce. It is not, however, to the Blue Phyllodoce that we should refer it, but rather to the Crowberry Phyllodoce, published by Dr. Graham in the *Botanical Magazine* under the name of *Menziesia empetrifolia*, afterwards altered by Sir W. Hooker to *M. Grahamii*. At first sight, indeed, one would say that the Upright Bryanth was the same plant—leaves, manner of flowering, manner of growth being almost identical. But the flowers of this plant are twice too large; their sepals are very sharp-pointed instead of being blunt; and, above all, the corolla has no tube whatever, but expands regularly from the base upwards into its peculiar bell-shaped form. In this respect it *seems* to answer to the character of a Bryanth, to the lawful species of which we do not possess any access; and is at variance with all the Phyllodoces, which, the Crowberry Phyllodoce included, have a distinct separation, by means of a contraction, between the tube and the limb.

We therefore conclude that this Bryanth may be a cross between the Cistus Rhododendron and the Blue Phyllodoce, owing its larger flowers, with the more delicate colour, to the influence of the former.

GLEANINGS AND ORIGINAL MEMORANDA.

CAMBESSEDESIA PARAGUAYENSIS. This singular Melastomad appears to be the first species of the genus introduced in a living state to this country. The flowers are produced in erect corymbose panicles, in colour rosy red. It flowered during the summer of 1881 with Messrs. Henderson, of the Pine Apple Nursery, Maida Vale. Its native country, Paraguay, would point to its being a warm greenhouse or intermediate temperature plant, requiring plenty of light, as it is described as inhabiting fully exposed places.

Rootstock short, woody. Stems numerous, ten to eighteen inches high, annual, herbaceous, leafy, subcorymbosely branched above, more or less minutely hispid or glabrate, four-angled, the angles narrowly winged. Leaves uniform, three-fourths to nearly one inch long, sessile, broadly ovate or elliptic ovate, acute, three-nerved, pale green margins quite entire, ciliate. Flowers in terminal corymbose glandular-hairy panicles, with stiff erecto-patent branches, bearing small leaves at the forks. Flowers two-thirds of an inch in diameter, shortly pedicelled, erect. Calyx green, glandular. Tube one-sixth of an inch long, oblong-campanulate, five-ribbed, green; lobes longer than the tube, subulate-lanceolate. Petals twice as long as the calyx-lobes, broadly ovate, acute, ciliate, rose-red. Anthers nearly as long as the petals, nearly equal in size, slender, falcate, larger with a two-lobed tubercle at the base in front, and a smaller simple tubercle behind; smaller anthers with a simple tubercle in front and none behind. Ovary quite glabrous, style long, stout, red, deflexed. Capsule almost globose, enclosed in the calyx-tube, three-celled, three-valved, valves rather crustaceous. Seeds very minute.—*Botanical Magazine*, 6604.

MASDEVALLIA REICHENBACHIANA, Endr., syn. *M. Normanni*, Hort. This is a beautiful species, very distinct in character, possibly more so from a horticultural than from a botanical point of view. The funnel-shaped tube is much longer than is usual in other Masdevallias, and the colouring is alike different from that of others. It is altogether a very desirable plant, but as yet extremely scarce, being confined to some dozen examples, nearly—if not quite—all, we believe, in the possession of the Rev. J. B. Norman, Whitchurch Rectory, Edgware, who is one of the most successful cultivators of Orchids, and has one of the most select collections of the cooler species in existence. The plant under notice grows well with treatment similar to that required by other species.

Tube funnel-shaped, narrowed at the base, very slender tails, and thin texture. Tube and tails whitish, with a blood-red hinder-part in the typical variety. There are others with radiating blood-red lines, others which are nearly black. Flowers two inches long.—*Gardener's Chronicle*, N.S., vol. ix., p. 257.

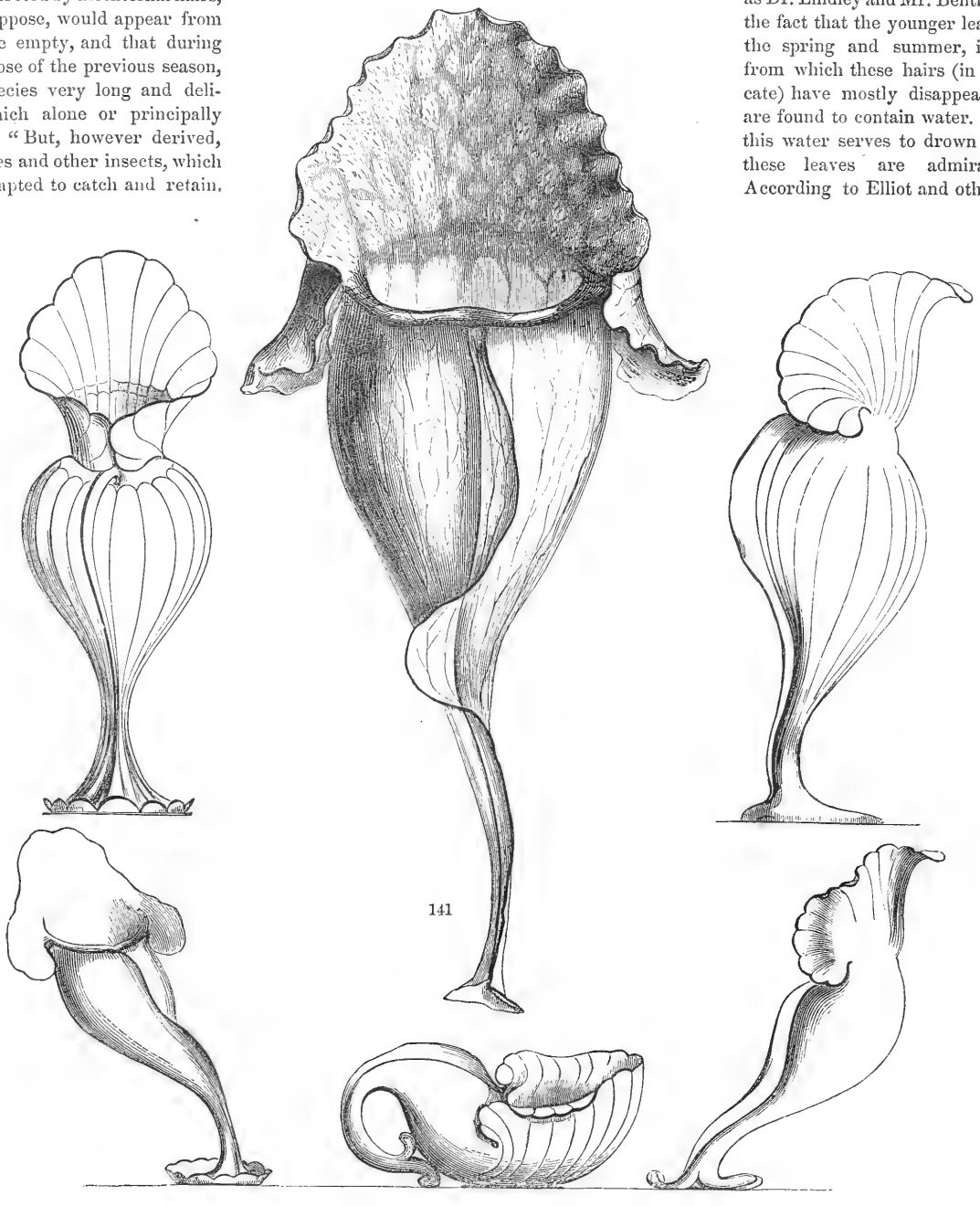
SARRACENIA PURPUREA. *Linnæus.* A swamp herbaceous plant with dull purple flowers, from the United States. Belongs to Sarraceniads. (Fig. 141.)

Under the sixth plate of Vol. I. of the present work are various remarks touching the economy and cultivation of the curious race to which this belongs. To what was then said we now add some remarks by Dr. Asa Gray in his beautiful work on the Genera of United States plants:—

"The pitcher or open tube of the leaves evidently belongs to the petiole, which is also simply winged or margined along the inner side; while the blade is represented by the hood, or rounded appendage at the apex, which cannot be called a lid, as it never closes the orifice, nor is it so much incurved as at all to cover it, except in two species. This proper lamina is rudimentary in Heliamphora, and very small in proportion to the ample orifice which extends some way down the inner side, and thence a *double* wing-like border extends to the base, appearing just as if the two margins of an infolded leaf were united by a seam, so as to leave the free edges outside. In Sarracenia this wing, or margin, is simple

and entire. The pitchers, especially those of *S. purpurea*, are generally found partly filled with water and dead flies, with other small insects. Whether the water is secreted by the leaf itself, or caught from the rain, is still undetermined. The point might readily be ascertained by proper observations, made especially upon *S. psittacina*, the pitchers of which are so protected by the hood that the fluid they contain (if any) can hardly be supposed to have entered by the orifice. That the water in the open pitchers of *S. purpurea* is not secreted by the internal hairs, as Dr. Lindley and Mr. Bentham suppose, would appear from the fact that the younger leaves are empty, and that during the spring and summer, it is those of the previous season, from which these hairs (in this species very long and delicate) have mostly disappeared, which alone or principally are found to contain water.

"But, however derived, this water serves to drown the flies and other insects, which these leaves are admirably adapted to catch and retain. According to Elliot and others,



there is a saccharine exudation at the throat of the Southern species which attracts insects; but this is not noticeable in *S. purpurea*. Immediately below the surface it is very smooth and polished, and still lower it is beset with sharp hairs, in most species long and slender, or else like those of the hood (in *S. Drummondii* extremely short and close), but in all

pointing directly downward, so as to allow insects to descend, but effectually to obstruct their return. The inner surface of the hood is likewise lined with stiff and sharp retrorse bristles, which subserve a similar purpose, except in *S. flava*, which is smooth; but in that species this appendage is erect with its sides turned away from the mouth of the tube, which thus it bears no part in guarding."

The species now represented inhabits the States from Virginia to Canada, and is readily known by the short inflated form of its pitchers. It strikes us that manufacturers might easily avail themselves of its grotesque figures for various economical purposes, especially the workers in gold and silver porcelain. In what way this may be done, our artist has endeavoured to suggest; but we doubt not that the good taste and practical skill of manufacturers would soon strike out a better path.

ECHINOPSIS CAMPYLACANTHA. *Pfeiffer* (*alias* Echinocactus leucanthus, *Gillies; alias* Cereus leucanthus, *Pfeiffer*). A long-spined Cactus, from the province of Mendoza, in Chili. Flowers long-tubed, large, pink, with a grey outside. Produced at Kew.

A fine and well-marked species, with handsome flowers, readily distinguished by the great length of the central spine of the areolæ, and by its taking an upward and inward curve, a direction to which the other radiating spines are more or less inclined. It is a native of the Argentine province of Mendoza, at the eastern foot of the Andes, where it was discovered by the late Dr. Gillies, and introduced by him to our Gardens, with many others from that region, which we fear are now mostly lost to us. It flowers in the spring and summer months. Our *plants* are, the largest of them, a foot high, in shape between ovate and globose, not unlike that of a pine-apple, rather acute at the top, longitudinally furrowed; *ridges* fourteen to sixteen, considerably elevated, scarcely compressed, obtuse; the edges slightly tubercled or lobed.—*Bot. Mag.*, t. 4567.

RHYNCHOSPERMUM JASMINOIDES. *Lindley.* A Greenhouse evergreen climber, with white sweet-scented flowers. Native of China. Belongs to Dogbanes. (Fig. 142.)

This is a slender climbing evergreen shrub, rooting along its branches, whenever it touches a damp surface, like ivy. When wounded, its branches discharge a milky fluid. The young shoots are slightly downy; the leaves opposite, oval, deep green, quite smooth, sharp-pointed, with minute scale-like glands in the place of stipules. The flowers are white, deliciously sweet-scented, and produced in small irregular corymbs on the ends of peduncles, considerably larger than the leaves. Their calyx consists of five narrow smooth convex sepals, rolled backwards, and much shorter than the tube of the corolla, with a very shallow toothed glandular ring surrounding the base of the latter. The corolla is about three quarters of an inch long, pure white, salver-shaped, contracted in the middle of the tube, with a partially spreading border, whose five divisions are wedge-shaped, truncate, and twisted obliquely.

142

The anthers are five, arrow-headed, placed just within the orifice of the tube, and separated by five slightly elevated hairy lines. The ovary consists of two separate carpels, and is surrounded by five oblong green emarginate hypogynous scales, which sometimes are slightly united at the edge.

The structure of this plant is not precisely that of the genus Rhynchospermum, as given by M. Alph. De Candolle, for the scales beneath its ovary are not exactly united into a cup. But they are partially so: and as there is no other difference as far as can be ascertained from the plant in a state of flowering only, it may be referred to the genus. In habit it is more like an Aganosma, but its corolla has not the tapering lobes of that genus, nor do the nectary or stigma correspond with it. *Journal of Hort. Soc.* vol. i, p. 74.

COLUMNEA KALBREYERANA. A very singular and distinct looking plant, shown by Messrs. Veitch at a meeting of the Royal

Horticultural Society in 1882. It differs much in general appearance from all other species of Columnea with which we have any acquaintance, having thick leathery foliage, the arched leaves proceeding right and left from the stem immediately over each other in two tiers. No doubt it will succeed under ordinary stove treatment as to temperature, with peaty soil and moderate pot-room.

Leaves closely set on each side of the stem, each twelve or eighteen inches in length, by two or three inches in breadth, oblong acute, oblique at the base, arching downwards, glabrous, dull green on the upper surface, mottled with translucent creamy orange on the lower surface, and with green veins. The flowers are borne on short racemes proceeding from the stem, and each has a long yellow calyx one and a half to two inches long, prismatic, angled and pointed at the tip.—*Gardener's Chronicle*, N.S., vol. xvii., p. 44.

EUCALYPTUS GLOBULUS. *Labillardière.* A vast tree, from Van Dieman's Land, known under the name of the "Blue Gum." Flowers white. Belongs to the Myrtleblooms (*Myrtaceæ*). (Fig. 143.)

Two huge blocks of the timber of this tree having been sent from Van Dieman's Land by Sir William Denison, for exhibition in the Crystal Palace, our readers will be glad to know something of its history. Garden catalogues say that it was introduced in 1810, and it is by no means rare among curious collections; but the rapidity of its growth soon renders it necessary to remove it. There is, however, no reason why it should not thrive out of doors in the south-west of England and Ireland, where the climate is as mild as in Van Dieman's Land. It has angular branches which, when young, droop, and are of a pale dull green colour. The leaves are firm, opaque, and unyielding, as if stamped out of horn, ovate-lanceolate, long-stalked, and curved in the form of a sickle; sometimes they are wider at the base on one side than on the other, and, by a twist of the stalk, always stand with their edges vertically instead of horizontally. The white flowers are almost two inches across when the stamens are expanded; and are produced singly or in clusters of threes; sometimes, as in our figure, when the leaves fall off, the fruits seem as if in spikes. The calyx is singularly knobby and rugged, with an angular tube, and a cover shaped like a depressed cone, or like a convexity with a rude boss in the centre. These flowers are covered before expansion with a thick glaucous bloom. The fruits are hard, woody, angular, rugged, knobby, urn-shaped bodies, with five openings into the cavities of the capsule.

The early discoverers of this tree reported it to attain the height of 150 feet; but they were far within the truth, as is shown by the blocks in the Great Exhibition, one of which near the base is 5 feet 7 inches in diameter; and another, cut from 134 feet above the first, is still 2 feet 10 inches in diameter. We learn from the proceedings of the Royal Society of Van Dieman's Land (vol. i., p. 157) that, on the 11th of October, 1848:—

"A paper was read by Mr. H. Hull descriptive of a gigantic tree of the Gum tribe, 'occurring in a gorge on the declivity of the Mount Wellington range near Tolosa, about six miles from Hobart Town.' Mr. Hull describes it as a Blue Gum (*Eucalyptus globulus*), and says 'it stands close to the side of one of the small rivulets that issue from the mountain, and is surrounded with dense forest and underwood. . . . It was measured with a tape, and found to be twenty-eight yards in circumference at the ground (more than nine yards in diameter), and twenty-six yards in circumference at the height of six feet. The tree appeared sound except at one part, where the bark had opened, and showed a line of decayed wood. The full height of the tree is estimated to be 330 feet.'"

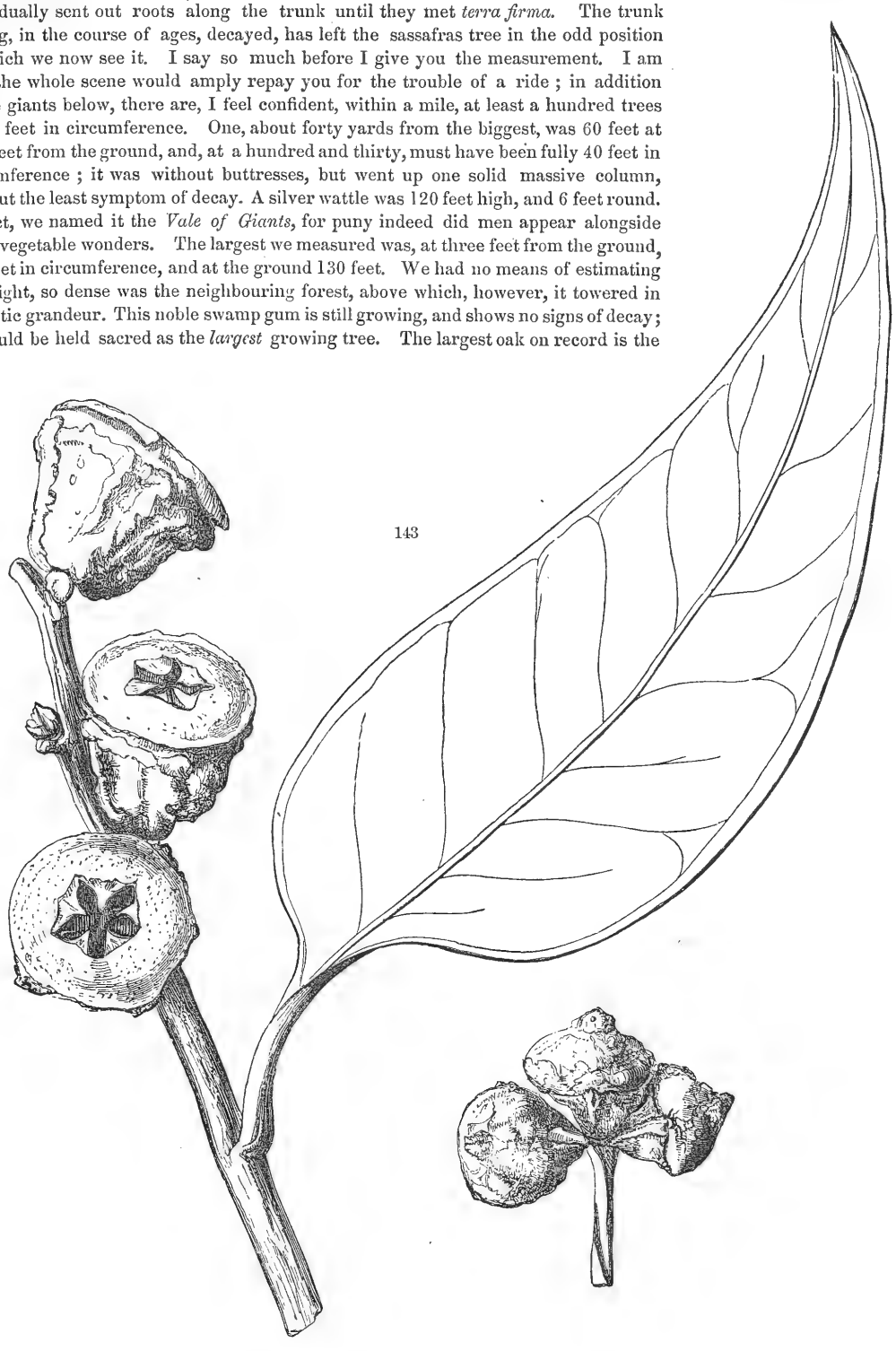
It is not improbable that the following extract from the same work (p. 165) relates to the same species, although it is spoken of by another name:—

"Mr. Milligan read the following note from the Rev. T. J. Ewing, of New Town, on the occurrence of some unprecedentedly large specimens of the *Swamp Gum* (*Eucalyptus Sp.*):—

"'NEW TOWN PARSONAGE, 19*th March*, 1849.

"'MY DEAR SIR,—I went last week to see a very large tree, or rather two very large ones, that I had heard of since 1841, but which were not re-discovered until Monday last. As they are two of the largest—if not *the* largest—trees ever measured, I have determined to send you an account of them, in order that a record may be preserved in any future publication of the Royal Society. They are within three-quarters of a mile of each other, on a small stream, tributary to the north-west Bay River, pretty far up on the ridge which separates its waters from those of Brown's River. They are easily reached from the Huon foot-path, and are in a beautiful vale of sassafras and tree-ferns, and not in an inaccessible gully like most of our gigantic trees. I have never before seen the tree-ferns growing in such luxuriance, bending over the stream like enormous cornucopias. The fire has never reached them, as they and the forest around them plainly show; and every here and there you are puzzled on seeing a sassafras tree with a root on either side—one

in particular forming a natural arch, underneath which you can walk. And it was some time before I could tell how it was ever possible for the tree to have grown there, until, on looking further, I perceived that the sassafras must have originally sprung from seed lodged in the bark of some swamp gum that had fallen across the brook ; and, as it grew, it gradually sent out roots along the trunk until they met *terra firma*. The trunk having, in the course of ages, decayed, has left the sassafras tree in the odd position in which we now see it. I say so much before I give you the measurement. I am sure the whole scene would amply repay you for the trouble of a ride ; in addition to the giants below, there are, I feel confident, within a mile, at least a hundred trees of 40 feet in circumference. One, about forty yards from the biggest, was 60 feet at four feet from the ground, and, at a hundred and thirty, must have been fully 40 feet in circumference ; it was without buttresses, but went up one solid massive column, without the least symptom of decay. A silver wattle was 120 feet high, and 6 feet round. In fact, we named it the *Vale of Giants*, for puny indeed did men appear alongside these vegetable wonders. The largest we measured was, at three feet from the ground, 102 feet in circumference, and at the ground 130 feet. We had no means of estimating its height, so dense was the neighbouring forest, above which, however, it towered in majestic grandeur. This noble swamp gum is still growing, and shows no signs of decay; it should be held sacred as the *largest* growing tree. The largest oak on record is the



Cowthorpe, in Yorkshire, which is 48 feet in circumference at three feet from the ground. Some hollow pollard oaks are larger, such as the Winfarthing, in Norfolk, which is 70 feet at the ground. The second tree, also a swamp gum, is prostrate. It measures, from the root to the first branch, 220 feet, and the top measures 64—in all 284 feet, without including the small top, decayed and gone, which would carry it much beyond 300 feet. The circumference at the base is 36 feet, and at the first branch 12 feet, giving an average of 24 feet. This would allow for the solid bole, 10,120 feet of timber, without including any of the branches. Altogether, as green timber, it must have weighed more than 400 tons. The oak that gave the most timber was the Gelonos oak, in Monmouthshire, which, with its branches, turned out 2426 feet, but the body alone only 450 feet. * * * * .—Believe me, yours very truly,

"'THOMAS J. EWING.

"His Excellency the President mentioned his having strongly recommended to the Right Hon. the Secretary of State for the Colonies, and to the Lords Commissioners of the Admiralty, the timber of our Blue Gum (*Eucalyptus globulus*). Plank can be obtained from it in lengths surpassing those of any other timber tree; and it may be sent home and sold at 8*d*. per foot, while oak plank (to which it is not inferior in quality), of the largest obtainable lengths, costs 2*s*. 6*d*. per foot."

Similar, although less striking, accounts of these gum trees are given by Mr. James Backhouse in his "Journal of a Visit to the Australian Colonies," as will be seen by the following extracts :—

"On an old road, called the Lopham Road, a few miles from the Bay, we measured some stringy bark (*Eucalyptus robusta*) trees, taking their circumference at about five feet from the ground. One of these, which was rather hollow at the bottom and broken at the top, was 49 feet round; another that was solid, and supposed to be 200 feet high, was 41 feet round; and a third, supposed to be 250 feet high, was 55½ feet round—as this tree spread much at the base, it would be nearly 70 feet in circumference at the surface of the ground. My companions spoke to each other when at the opposite side of this tree to myself, and *their voices sounded so distant, that I concluded they had inadvertently left me to see some other object*, and immediately called to them. They, in answer, remarked the distant sound of my voice, and inquired if I were behind the tree!" (P. 115.)

"In company with J. Milligan and Henry Stephenson, a servant of the company, from near Richmond in Yorkshire, we visited a place in the forest remarkable for an assemblage of gigantic stringy barks, and not far from the junction of the Emu River with the Loudwater, the latter of which takes its name from three falls over basaltic rock at short intervals, the highest of which is 17 feet. Within half a mile we measured standing trees as follows, at four feet from the ground. Several of them had one large excrescence at the base, and one or more far up the trunk :—No. 1, 45 feet in circumference, supposed height 180 feet; the top was broken, as is the case with most large-trunked trees; the trunk was a little injured by decay, but not hollow. This tree had an excrescence at the base, 12 feet across, and 6 feet high, protruding about 3 feet. No. 2, 37½ feet in circumference; tubercled. No. 3, 35 feet in circumference; distant from No. 2 about eighty yards. No. 4, 38 feet in circumference; distant from No. 3 about fifty yards. No. 5, 28 feet in circumference. No. 6, 30 feet in circumference. No. 7, 32 feet in circumference. No. 8, 55 feet in circumference; supposed to be upwards of 200 feet high; very little injured by decay; it carried up its breadth much better than the large trees on the Lopham Road, and did not spread so much at the base. No. 9, 40½ feet in circumference; sound and tall. No. 10, 48 feet in circumference; tubercled, tall, with some cavities at the base, and much of the top gone.

"A prostrate tree near to No. 1, was 35 feet in circumference at the base, 22 feet at 66 feet up, 19 feet at 110 feet up; there were two large branches at 120 feet; the general head branched off at 150 feet; the elevation of the tree, traceable by the branches on the ground, was 213 feet. *We ascended this tree on an inclined plane formed by one of its limbs and walked four abreast with ease upon its trunk!* In its fall it had overturned another, 168 feet high, which had brought up with its roots a ball of earth 20 feet across. It was so much imbedded in the earth that I could not get a string round it to measure its girth. This is often the case with fallen trees. On our return, I measured two stringy barks, near the houses at the Hampshire Hills, that had been felled for splitting into rails, each 180 feet long. Near to these, is a tree that has been felled, which is so large that it could not be cut into lengths for splitting, and a shed has been erected against it; the *tree serving for the back!* (P. 121.)

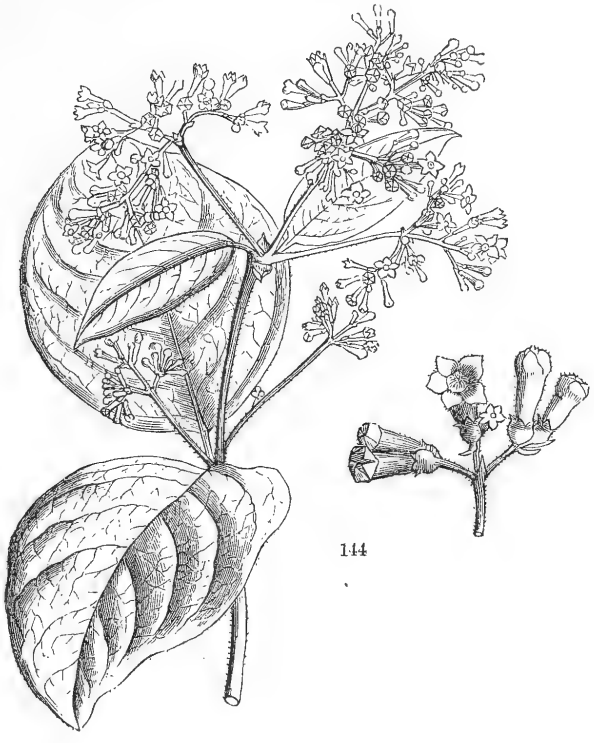
As we have already observed, there seems to be no reason why these prodigious trees should not, at some future day, decorate the scenery of Great Britain. Devonshire and Cornwall, or Cork and Kerry, would certainly prove capable of bringing them to maturity. [This supposition is now disproved.]

HEBECLINIUM IANTHINUM. *Hooker* (*alias* Conoclinium ianthinum, *Morren*. *See* Vol. i., p. 113).

Sir W. Hooker is of opinion that this plant should be referred to the genus *Hebeclinium*, rather than to *Conoclinium*, and that it is a close congener of *Hebeclinium macrophyllum*, a common plant of Jamaica, belonging to the first section of De Candolle. "As a species," he adds, the "plant differs abundantly in its large purple flowers and in the cuneate base to the leaf. It flowers in the winter months with us, and is then very ornamental. An herbaceous rather than a shrubby plant. Stem and branches terete, clothed with rusty down. Leaves opposite, on very long petioles, often a span long, ovate, but decidedly cuneate and entire at the base, very acute rather than acuminate, coarsely and often

doubly serrated, the serratures mucronate. Corymb large, the capitula clustered at the ends of the branches. Flowers remarkable for the exceedingly long purple styles, which have, at first sight, almost the effect of a many-flowered ray. The corollas are also purple. Achenium angular. Pappus of few scabrous setæ."

If *Conoclinium* differs as a genus from *Hebeclinium*, merely in having a smooth conical receptacle, instead of a hairy convex one,—very small matters,—then no doubt this plant has been wrongly placed by Morren. But if the genera differ in the coloured enlarged bracts of the one, as compared with the herbaceous bracts of the other, then Morren's view may be the more correct. But, in truth, the genera are so nearly allied that it would be better to unite them than to waste words in unprofitable discussions concerning distinctions which are fleeting and undeterminate. Sir W. Hooker adds that the plant is Mexican and not Brazilian.



144

ROGIERA MENECHMA. *Planchon.* A stove shrub of the order of Cinchonads. Flowers pale salmon-coloured. Native of Guatemala. Introduced by the Horticultural Society. (Fig. 144, reduced, with flowers by the side, of the natural size.)

In his account of this genus, at t. 442 of the *Flore des Serres*, M. Planchon distinguished from his *R. amœna*, a plant which he called *R. Menechma*, by its stamens being inserted near the orifice of the tube, and having paler pollen, and by the shortness of the style, which does not reach half way up the corolla. In other respects it was said to be wonderfully like *R. amœna*. We entertain no doubt that his species is what is now figured from a specimen in one of the hothouses of the Horticultural Society, although in some respects the resemblance fails. It has the same manner of growth and similar foliage, but is more downy ; and the leaves are more ovate. The branches are covered with a close fur instead of having a fine pubescence. The flowers are not so large nor so compactly arranged, and are much paler; the lobes of the corolla are almost acute instead of being emarginate; and the anthers are placed just below the throat of the corolla. We do not, however, find the style always as M. Planchon describes it ; sometimes it is protruded beyond the orifice of the corolla as in *R. amœna*, sometimes it is not half the length of the corolla. Both these plants are very useful aids in decorating stoves, and possess the good quality of growing without unwillingness under the commonest management. Dampness, light, tropical warmth, and a light vegetable soil, are all the requisites which they demand.

TROPÆOLUM PENDULUM. *Klotzsch.* An annual (?) climbing, half-hardy plant, with yellow flowers, from Central America. Introduced by Mr. Mathieu, Nurseryman, Berlin.

Branches shining, round, bright green, climbing. Leaves peltate, smooth, glaucous beneath, deep green above, rounded and truncate at the base, slightly five-lobed, with short acute lobes of which the middle one is mucronate. Flowers axillary, solitary, pendulous. Calyx five-parted, yellow, with oblong lobes tapering to the point, the three upper curved backwards, the two lower nearly erect, together with the middle one of the upper set greenish at the point. Petals yellow, spathulate, crenated on the upper edge, the three lower long-stalked and whole coloured, the two upper sessile, recurved, marked with parallel red lines and a dull violet bar near the edge. Filaments yellowish. Anthers greyish green. Raised from M. Warczewitsch's collections. *Allgem. Gartenzeit.*, Nov. 30, 1850.

LESPEDEZA BICOLOR. Amongst the pea-shaped flowers are to be found many of the most attractive blooming plants we possess, and the subject of the present notice being a hardy shrub, is a fine addition to our out-door flowers. Its flowers are produced in partially erect racemes from several of the joints towards the extremities of the shoots, and are very handsome. It bloomed at Kew in the autumn of 1881, and is a native of Japan and North China.

A slender leafy shrub. Leaves three-foliate, petiole slender; leaflets variable, elliptic oblong obovate, obcordate or rounded, petiolules short, slender; nerves numerous, spreading, very slender. Racemes axillary, six to nine inches long, drooping or suberect. Flowers opposite, alternate, and fascicled, one-third to two-thirds of an inch long. Pedicel slender. Calyx one-fourth of an inch long, with minute bracteoles at the base, pubescent or silky; tube short; lobes lanceolate, acuminate, straight. Corolla three times as long as the calyx, bright rose-purple, white or violet; standard ovate, very shortly clawed, reflexed, with recurved margins; wings shorter than the standard, falcately oblong, obtuse. Upper stamen free. Pod one-quarter of an inch long, membranous, flattened, obliquely ovate rotundate or subtrapeziform, base narrowed, point beaked, margins slightly thickened, faces reticulate. Seed flattened, orbicular-oblong, testa brown, smooth.—*Botanical Magazine*, 6602.

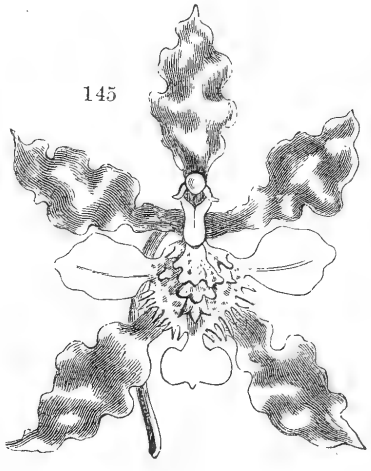
TECOPHILÆA CYANOCROCUS. A pretty little bulbous plant from the Island of Juan Fernandez, shown by Mr. G. F. Wilson before the Floral Committee of the Royal Horticultural Society, who awarded it a First-Class Certificate. Its foliage is not unlike that of *Scilla sibirica*. Most likely it will require the protection of a frame to grow it successfully. A beautiful addition to our winter blooming plants. The flowers are a lovely bright blue. It is of dwarf habit, not growing to a height of more than a few inches.

Bulbous, leaves resembling those of *Scilla sibirica*, but more pointed. Flowers borne on slender leafless stalks two or three inches in height, the flowers themselves being about one inch in length, funnel-shaped, with oblong obovate obtuse segments, of a deep cobalt-blue, like that of *Gentiana acaulis*, with a few fine white stripes at the base. —*Gardener's Chronicle*, N.S., vol. xvii., p. 44.

ONCIDIUM BARBATUM. *Lindley*. A Brazilian Epiphyte, with panicles of small yellow and brown flowers. Belongs to Orchids. Blooms in January. (Fig. 145, a single flower, four times the natural size.)

Received from Parà by J. Knowles, Esq., of Manchester. It is evidently the little-known plant figured many years since in the *Collectanea Botanica*, and afterwards introduced by Mr. Gardner to the Glasgow Gardens, but apparently lost in the collections near London. It forms a small tuft of hard, oblong, one-ribbed pseudo-bulbs, having single oblong hard leaves much shorter than the branching stem. The flowers are yellow mottled with brown, and spotted with crimson on the lip. It differs from *O. ciliatum* in the petals being acuminate, not obtuse or emarginate, in the middle lobe of the lip being smaller (sometimes very much smaller) than the lateral lobes, and in the central tubercles of the crest being furnished with several smaller ones on each side, a circumstance overlooked in the figure by Mr. Hooker, published in the *Collectanea*. The following woodcut is accurate in these important particulars.

145



THE TRANSPARENT DENDROBE.
(DENDROBIUM TRANSPARENS.)

[PLATE 47.]

THE TRANSPARENT DENDROBE.

(DENDROBIUM TRANSPARENS.)

A Stove Epiphyte from NORTHERN HINDOSTAN, *belonging to the Natural Order of* ORCHIDS.

Specific Character.

THE TRANSPARENT DENDROBE (TRUE DENDROBES).—Stems erect, tapering, smooth. Leaves ovate-lanceolate, acuminate, oblique at the point. Flowers in pairs or threes. Sepals linear-oblong; petals broader, blunt. Lip acute, oblong, downy, with the sides erect and rolled inwards.

Dendrobium transparens: *Wallich, Catalogue,* No. 2008: *Lindley, Genera and Species Orchid.*, p. 79.

ONE of the most delicate and beautiful of a delicate and beautiful genus. It was first made known by Dr. Wallich, whose collectors found it in Nepaul; and from very imperfect specimens it was incorrectly described in the Genera and Species of Orchidaceous plants as a pendulous species, with the habit of the Pierard Dendrobe. It was introduced by Messrs. Veitch and Co., for whom it was collected by Mr. Thomas Lobb at a place called Myrong, on the Garrow Hills, at an elevation of 5,300 feet. This Myrong, or Myrung, seems to be a wood abounding in plants; for in Griffith's "Itinerary Notes," thirty-four species are named as having been uncommon enough to be gathered by him, and among them are eleven Orchids, of which this Dendrobe was probably his No. 1013, growing on rocks and trees; at least, we find it among his Khasija plants. From the nature of the vegetation associated with it we may infer that it is by no means a tender kind.

It is readily known among its race by its short erect stems, obliquely emarginate leaves, and wide spreading pinkish flowers stained with crimson in the middle of the lip, and as transparent as anything vegetable well can be. It flowers most abundantly, and must be regarded as a great acquisition.

In this genus there is found to be so large a number of species, having such widely different habits, that Botanists, at an early period of their acquaintance with them, were led to create many supposed genera, the distinctions among which are now found to be unreal or unimportant. They, however, in some cases, form good sectional divisions, of which a vacant page enables us to present the following sketch, along with an enumeration of all the species known to us, and their more important synonyms :—

SECTIONS OF THE GENUS DENDROBIUM.

Folia equitantia . . . . . § 1. *Aporum* Bl. (Macrostomium *Bl.*)
Folia teretia . . . . . § 2. *Strongyle.*
Folia plana, v. O.
Labellum plumosum, aut pectinatum . . . . . § 3. *Desmotrichum* Bl.
——— nec plumosum nec pectinatum
a. Caules elongati undique foliosi
Flores fasciculati . . . . . § 4. *Eudendrobium.* (Grastidium *Bl.*)
Flores racemosi
Petala nana
Labellum elongatum, angustum, intùs nudum, . § 5. *Pedilonum* Bl.
——— brevius, dilatatum . . . . . § 6. *Stachyobium.*
Petala antennæformia . . . . . § 7. *Ceratobium.*
b. Caules clavati apice tantum foliosi . . . . . § 8. *Dendrocoryne.*
c. Pseudobulbi tantùm aut caules brevissimi . . . . . § 9. *Bolbodium.*
d. Rhizomata tantùm . . . . . § 10. *Rhizobium.*

§ 1. APORUM.

This consists of species with erect or prostrate stems; succulent equitant leaves, and inconspicuous flowers. It includes the genera *Macrostomium* and *Sarcostoma* of Blume, and *Schismoceras* of Presl., which seems to be *Aporum Leonis*. The following are the species :—

1. A. micranthum *Griffith.* 2. A. anceps *Lindley.* 3. A. Leonis *Id.* 4. Dendrobium Sarcostoma *Id.* 5. Macrostomium aloefolium *Blume.* 6. A. sinuatum *Lindley.* 7. A. cuspidatum *Wallich.* 8. A. indivisum *Blume.* 9. A. lobatum *Id.* 10. A. incrassatum *Id.* 11. A. Serra *Lindley.* 12. A. subteres *Griffith.*

§ 2. STRONGYLE.

Here are found all the Dendrobes with tapering or awl-shaped leaves. The section is quite analogous to the Ceboletes, among Oncids, as the last was to the equitant division of that genus. Several of Blume's *Onychiums* must be referred to it. They are generally plants of no beauty.

13. D. gracile *Lindley.* 14. D. tenellum *Id.* 15. D subulatum *Id.* 16. D. teretifolium *R. Br.* 17. D. acerosum *Lindley.* 18. D. schœninum *Id.* 19. D. teres *Id.* 20. D. crispatum *Swartz.* 21. D. aciculare *Lindley.* 22. D. junceum *Id.* 23. D. calamiforme *Loddiges.*

§ 3. DESMOTRICHUM.

With this section we enter upon the mass of the genus, with flat leaves, and more conspicuous blossoms. They have erect stems, often more or less distended into pseudobulbs, and are remarkable for the end of the lip being broken up into long tufted fringes, or in *D. planibulbe,* marginal threads.

24. D. Scopa *Lindley.* 25. D. criniferum *Id.* 26. D. comatum *Id.* 27. D. angulatum *Id.* (There is another species with this name in Eudendrobium.) 28. D. Blumei *Id.* 29. D. planibulbe *Id.*

§ 4. EUDENDROBIUM.

The centre of the genus, rich in species, among which are several of considerable beauty, although not of the greatest. They have long leafy stems, erect or pendulous, and flowers in lateral pairs or rarely in threes, with no trace of the feathery or tufted lip of the last section. Two divisions are conveniently made by attending to the form of the lip.

A. *Lip undivided.*

30. D. macrophyllum *Lindley.* 31. D. anosmum *Id.* 32. D. moniliforme *Swartz.* 33. D. cærulescens *Lindley;* (alias *D. Wallichii*). 34. D. nobile *Id.* 35. D. tortile *Id.* 36. D. pulchellum *Roxb.* 37. D. Devonianum *Paxton.* 38. D. Pierardi *Roxb.* 39. D. cretaceum *Lindley.* 40. D. cucullatum *R. Br.* 41. D. Egertoniæ *Lindl.* 42. D. mesochlorum *Id.* 43. D. crepidatum *Id.* 44. D. transparens *Wallich.* 45. D. amœnum *Id.* 46. D. macrostachyum *Lindley.* 47. D. gemellum *Id.* 48. D. foliosum *A. Brongniart* ; (is this a Stachyobium ? or a new genus ? or an Appendicula ?) 49. D. rugosum *Lindl.* 50. D. salaccense *Id.* 51. D. chrysanthum *Wallich.* 52. D. Paxtoni *Lindl.* 53. D. ochreatum *Id.* (alias D. Cambridgeanum *Paxton.*) 54. D. aureum *Id.;* (alias D. heterocarpum *Wallich*). 55. D. candidum *Wallich.* 56. D. nutans *Lindley.* 57. D. stuposum *Id.* 58. D. connatum *Id.*

B. *Lip three-lobed.*

59. D. longicornu *Lindley.* 60. D. Ruckeri *Id.* 61. D. sanguinolentum *Id.* 62. D. aqueum *Id.* 63. D. revolutum *Id.* 64. D. excisum *Id.* 65. D. bilobum *Id.* 66. D. calcaratum *Id.* 67. D. crumenatum *Swartz.* 68. D. angulatum *Wallich* ; (see Desmotrichum No. 27). 69. D. biflorum *Swartz.* 70. D. acuminatissimum *Lindley.* 71. D. Cunninghamii *Id.* 72. D. Luzonense *Id.* 73. D. tridentiferum *Id.* 74. D. tetraedre *Lindl.*

§ 5. PEDILONUM.

The habit of Eudendrobium, together with flowers in racemes, diminutive petals, and a long narrow naked lip, distinguishes this small group, among which the beauty of *D. secundum* typifies that of the remainder.

75. D. secundum *Wallich.* 76. D. erosum *Lindley.* 77. D. hymenophyllum *Id.* 78. D. Kuhlii *Id.* 79. D. Hasseltii *Id.* 80. D. Reinwardtii *Id.*

§ 6. STACHYOBIUM.

At this point the genus assumes its greatest development, and consequently its most conspicuous brilliancy. Yellow is a prevailing colour. The species would merge in *Pedilonum,* if it were not for the large full-grown petals, and broad dilated lip, which in some cases runs inwards into a kind of sock or pouch. Two divisions are again obtainable here, by observing the differences in the form of the lip.

A. *Lip undivided.*

81. D. mutabile *Lindley.* 82. D. sclerophyllum *Id.* 83. D. triadenium *Id.* ; (perhaps these three last are varieties of each other). 84. D. aduncum *Id.* 85. D. formosum *Roxburgh.* 86. D. rhombeum *Lindley.* 87. D. fimbriatum *Hooker.* 88. D. polyanthum *Wallich.* 89. D. sulcatum *Lindley.* 90. D. moschatum *Wallich* ; (alias D. calceolus *Hooker* ; alias D. cupreum *Herbert* ; alias D. clavatum *Wallich*). 91. D. Dalhousianum *Paxton.* 92. D. calcaratum *A. Rich.* 93. D. flavescens *Lindley.* 94. D. nudum *Id.* 95. D. auriferum *Id.* 96. D. ramosum *Id.* 97. D. herbaceum *Id.* 98. D. japonicum *Id.* 99. D. cassythoides *Id.*

B. *Lip three-lobed.*

100. D. Heyneanum *Lindley.* 101. D. barbatulum *Id.;* (alias D. chlorops, *Lindley*). 102. D. lancifolium *A. Richard.* 103. D. bicameratum *Lindley.* 104. D. elongatum *A. Cunn.* 105. D. bicolor *Lindley.* 106. D. catenatum *Id.* 107. D. denudans *Don.* 108. D. alpestre *Royle.* 109. D. cuspidatum *Lindley.* 110. D. breviflorum *Id.*

§ 7. CERATOBIUM.

A remarkable form of the genus, with tall erect stems, flat leaves, and long racemes of flowers, conspicuous for the long narrow antennæ-like petals.

111. D. Mirbelianum *Gaudich.* 112. D. veratrifolium *Lindley.* 113. D. macranthum *A. Richard.* 114. D. antennatum *Lindley.* 115. D. taurinum *Id.* 116. D. undulatum *R. Br.*; (alias D. discolor *Lindley*). 117. D. affine *Lindley.*

§ 8. DENDROCORYNE.

From this point the development of the genus diminishes. The stem is contracted at the base, and club-shaped, with leaves at only the extreme end, as in the § *Spathium* among Epidendrums; the flowers are as in *Eudendrobium* and *Stachyobium.* The inflorescence may be made to constitute sectional differences.

A. *Inflorescence terminal.* (Chiefly Australian.)

118. D. speciosum *Smith.* 119. D. canaliculatum *R. Br.* 120. D. æmulum *R. Br.* 121. D. Kingianum *Bidwill.* 122. D. Veitchianum *Lindley.* 123. D. tetragonum *Cunningham.* 124. D. Macræi *Lindley.* 125. D. longicolle *Lindley.*

B. *Inflorescence lateral.*

126. D. chrysotoxum *Lindley.* 127. D. Griffithianum *Id.* 128. D. aggregatum *Roxburgh.* 129. D. compressum *Lindley.* 130. D. densiflorum *Wallich.* 131. D. Palpebræ *Lindley.*

§ 9. BOLBODIUM.

In lieu of true stems these species are furnished with pseudobulbs, sitting on a prostrate rhizome. With the exception of *D. Jenkinsii* they are all obscure plants of no horticultural value.

A. *Lip undivided.*

132. D. Jenkinsii *Wallich.* 133. D. braccatum *Lindley.* 134. D. muscicola *Id.* 135. D. pygmæum *Id.* 136. D. subacaule *Reinwardt.* 137 ? D. tricuspe *Lindley.* 138 ? D. plicatile *Id.* 139 ? D. lamellatum *Id.* 140 ? D. pusillum *Id.* 141 ? D. triflorum *Id.* 142. D. appendiculatum *Id.*

B. *Lip three-lobed.*

143. D. extinctorium *Lindley.* 144. D. microbolbon *A. Richard.* 145 ? D. angustifolium *Lindley.* 146 ? D. convexum *Id.* 147 ? D. grandiflorum *Id.* 148 ? D. cymbidioides *Id.* 149 ? D. elongatum *Id.* 150 ? D. geminatum *Id.*

§ 10. RHIZOBIUM.

Obscure species, with nothing more than a creeping rhizome, bearing solitary coriaceous leaves.

151. D. linguæforme *Swartz.* 152 D. cucumerinum *W. Macleay.* 153. D. pugioniforme *A. Cunningham.* 154. D. rigidum *R. Br.*

THE ACUMINATE ONION.
(ALLIUM ACUMINATUM.)

[PLATE 48.]

THE ACUMINATE ONION.

(ALLIUM ACUMINATUM.)

A Hardy Bulb, from CALIFORNIA, *belonging to the Order of* LILYWORTS.

Specific Character.

THE ACUMINATE ONION.—Stem leafy at the base. Leaves subulate, as long as the scape. Umbels lax; the pedicels much longer than the spathe; not bulbiferous. Sepals and petals acuminate, erect, recurved at the point, the latter much smaller than the former. Filaments shorter, entire, free. Ovary and capsule obovate, without appendages.

Allium acuminatum: *Hooker, Flora Boreali-Americana*, vol. ii., 184, t. 196.

A FEW bulbs of this charming plant were sent from California to the Horticultural Society by Mr. Hartweg.

The name Onion conveys to an English ear ideas of anything but beauty, for many common species are as ugly as plants well can be, and the handsome kinds are almost unknown in gardens. Nevertheless, in a genus consisting of nearly a couple of hundred species, many may be found which ought to take rank with Hyacinths and Jonquils. Of these Moly and the Magical Onion are well-known examples, though now-a-days confined to curious collections; and the rare species here figured is another, much handsomer than either, and probably the queen of the family. Its gay flowers, almost transparent when colourless, and stained with the richest rose colour near the points, can scarcely be regarded as inferior in beauty to the Guernsey Lily itself, and they are far less fugitive.

The plant grows about a foot high, with narrow taper rushy leaves, about as long as the scape.

The flowers are arranged in loose umbels, or stalks, very much longer than the spathe. The sepals are much larger than the petals, and rather broader; otherwise they are both of the same form and colour—sharp-pointed and richly stained with crimson at the point, while the lower half is colourless and semi-transparent; they all cohere near the base. The stamens are inserted a little below the middle of the petals, and just above the base of the sepals; but they are in both cases easily detached; at the base they are united in the smallest possible degree; the filaments are flat, in no degree lobed, awl-shaped from a broad base: those opposite the petals, the longest. The ovary is obovate, depressed at the apex, and terminated by a sunken awl-shaped style, 3-celled, with two erect ovules in each cell; the stigma is nearly simple. The capsule is papery, and opens through the back of the cells. Seeds thin, black, with a soft skin; the greater part abortive.

Were it permitted to suppose that a plant so similar to Onions in most respects could form a separate genus, one would be tempted to place this apart, for it wants their smell, and is most remarkable for its petals being considerably smaller than the sepals. But no other difference being perceptible we must believe it to belong to the group of which Allium roseum forms one.

At first sight it would seem to differ from the Acuminate Allium described by Sir W. Hooker in his Flora Boreali-Americana, in the absence of toothings from the petals, in the smallness of those parts, and in stature: being a much larger and more handsome plant than Sir W. Hooker's figure represents. We have, however, ascertained, from the examination of authentic specimens, that there is no real distinction. In our wild plant from Douglas the petals are smaller than the sepals, as in this, and we are unable to detect the toothings above referred to.

GLEANINGS AND ORIGINAL MEMORANDA.

Saccolabium Græffei. This species appears to have been recently flowered by Mr. T. Christy, of Malvern House, Sydenham, and from the description will no doubt turn out a handsome plant. New Saccolabiums make their appearance at much wider intervals than many Orchids, and on this account the subject of our notice will be acceptable to the lovers of Orchids. It is said to come from the Viti Islands.

Leaves broad, ligulate, retuse. Peduncle strong, bearing a spike of deep purple flowers, in shade approaching that of *Rodriguezia secunda*. Cylindrical spur blunt and constricted. Lip blade short, three-toothed, with a transverse lamella in front of the base of the middle lacinia.—*Gardener's Chronicle*, N.S., vol. xvi., p. 716.

Cypripedium gemmiferum. A handsome hybrid variety. The colours are a combination of white and purple, shaded with rose and streaked with green. Flowered with J. C. Bowring, Esq., Forest Farm, Windsor Forest.

Leaves like *C. Hookeræ*. Peduncle dark reddish-brown. Upper sepal broad elliptic, with a small apiculus, white with a rosy hue towards the lateral margin, bearing eleven green nerves on each side of the middle rib. Inferior sepal narrow, more acute, not equalling the lip. Petals broad, ligulate, blunt, green at the base, purple in the middle, white at the extreme apex. Ciliæ around the margin. Lip with a blunt sepia-brown sac and upright horns of the same colour, nail lighter greenish, excepting inflexed parts, which are light brown, and adorned with numerous shining reddish-brown warts, which have suggested the name. Staminode transverse, crescent-shaped, with a little apiculus in the middle, and an excision at the back opposite to it.—*Gardener's Chronicle*, N.S., vol. xv., p. 814.

Zephyranthes citrina. This is a decided acquisition, horticulturally, as it is the first of the genus, so far as our acquaintance goes, that bears flowers of a yellow hue. The general character of the plant, as far as the appearance of the bulbs and leaves is concerned, is much like some others of the family—such, for instance, as the old *Z. rosea*—but the flowers, which are borne much in the same way as those of the last-named plant, are smaller, the diameter of the limb being much less. Most likely this species will thrive under conditions similar to the others already better known, which as to temperature require that of an ordinary greenhouse, with a moderate quantity of water whilst growing, never allowing the soil to become dry when at rest. It is a native of tropical America.

Bulb globose. Leaves three or four, developed in autumn simultaneously with the flower, narrow linear, bright-green, about a foot long. Scape ancipitous, four or five inches long, green, tinged with red-brown towards the base. Spathe short, tubular. Pedicel under an inch long. Ovary oblong, trigonous, green ; perianth with a funnel-shaped tube above the ovary, a third or half an inch long, and a bright yellow limb an inch and a half long of six oblong sub-acute connivent segments under half an inch broad. Stamens same colour as the perianth limb ; filaments under an inch long, erect and equal ; anthers linear, half an inch long, their tips falling considerably short of the tips of the perianth-segments. Style about an inch long, with a stigma of three distinct rounded lobes.—*Botanical Magazine*, 6605.

Nepenthes Courtii. In the host of hybrid plants, which within the last twenty years have been raised in Messrs. Veitch's Chelsea establishment, Nepenthes form an important feature. These most singular of Nature's vegetable productions appear readily to conform to the manipulation of the hybridist. In this way many varieties alike handsome and distinct

in appearance have been brought into existence; amongst these the plant under notice is one of the best. The pitchers are of medium size, the pale green ground-colour contrasting nicely with the red spotting, which extends over the whole surface. The wings are wider and more deeply laciniate than is the case in most of the species and varieties similar in size.

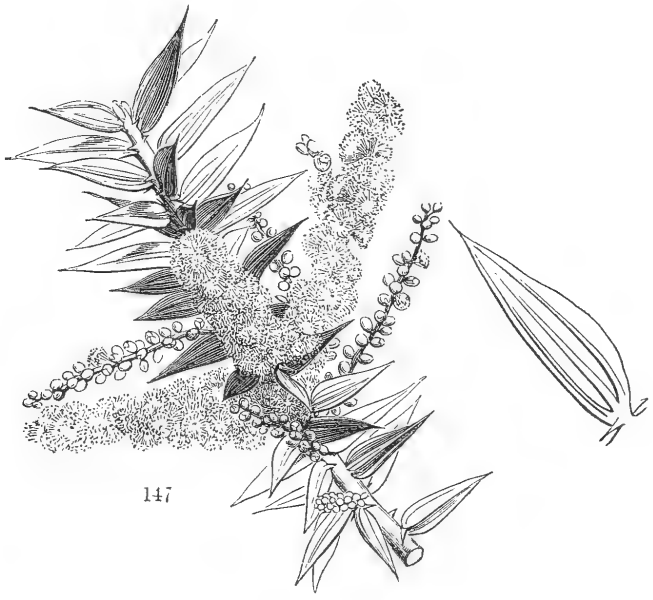
Of robust habit and free growth. Stems purplish and hairy. Leaves ten to twelve inches long, dark green in colour, glabrous above, paler beneath, lanceolate, acute at the apex, tapering toward the base, which expands to clasp the stem; the midrib and margins, as well as the tendril-like prolongation of the leaves, are pilose. On either side of the midrib are three to five parallel nerves, the tertiary transverse ones are inconspicuous in the fresh plant. The pitchers measure about five inches by two and a half, are very firm in texture, of a dull greyish-green, spotted with red, distended at the base, cylindrical above the middle, with deep, sharply laciniate wings; mouth ovate, finely and evenly ribbed, prolonged into a short column at the back. Lid somewhat convex ovate, smaller than the mouth, with a simple spur at the back. Throat shining and red-spotted.—*Gardener's Chronicle*, N.S., vol. xvi., p. 844.

Acacia Riceana. *Henslow.* (*alias* A. setigera *Hooker.*) A tall drooping bush with long spikes of pale yellow flowers. Native of Van Diemen's Land. Flowers from February to May. (Fig. 146.)

The discovery of this most beautiful species was made by Mr. Ronald Gunn, who sent home dried specimens in 1837. In his unpublished notes he describes it as a very common species at Hobart Town, and on the banks of the Derwent; but it was not seen by him on the north side of the colony. He adds, that it grows from six to ten feet high; if planted out in the border of a greenhouse it grows much larger; in the garden of the Horticultural Society it forms a bush of extreme elegance, rising twenty-five feet high, in the great iron conservatory, and then curving downwards its weeping branches, which are loaded with heaps of pale yellow flowers till the middle of April. When treated thus, *A. Riceana* is probably the handsomest species of its genus. The phyllodes, which grow in clusters, are linear, deep green, and sharpened into a fine point which itself is a continuation of a solitary rib which passes along the middle; marginal gland there is none. The flowers grow singly in long loose spikes, and, before expansion, constitute small oval bodies with three short scale-like sepals and three petals.

The species was named by Professor Henslow after Lord Monteagle, then the Right Hon. T. Spring Rice, one of the members for Cambridge. It is readily distinguished from *A. juniperina* by the latter having its flowers in solitary spherical heads, not in long loose spikes.

ACACIA OXYCEDRUS. *Sieber.* (*alias* A. taxifolia *Loddiges.*) A handsome bush from the southern parts of Australia. Flowers in bright yellow spikes, appearing in January and February. (Fig. 147.)



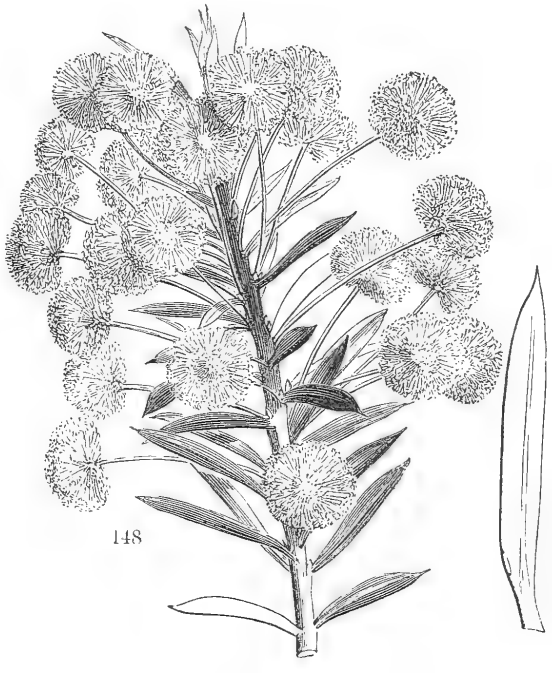
147

Apparently a common plant in Van Diemen's Land, and the south-eastern districts of the Australian continent. Sir Thomas Mitchell found it on Mount William in 1836 ; the Blue Mountains are named by others, and Mr. Backhouse notices it among the Tasmannian plants which struck him with their beauty. He speaks of it as being in flower on the 7th of September, among the earliest indications of spring, and again in April :—

"On the 15th of the fourth month," he says, "we held a meeting with some sawyers, in their huts, at a place called the King's Pits, on the ascent of Mount Wellington, at an elevation of about 2000 feet, and about four miles from the town. The forest among which they are residing is very lofty: many of the trees are clear of branches for upwards of 100 feet. It caught fire a few months ago, and some of the men narrowly escaped. The trees are blackened to the top, but are beginning to shoot again from their charred stems. The brushwood is very thick in some of these forests. A shower of snow fell while we were at the place. *Acacia oxycedrus*, ten feet high, was in flower on the ascent of the mountain. This, along with numerous shrubs of other kinds, formed impervious thickets in some places ; while, in others, *Epacris impressa* displayed its brilliant blossoms of crimson and of rose-colour."

In cultivation it forms a stout shrub, with hard, sti . bright green phyllodes, having three strong ribs terminating in a fine point. In form these phyllodes are variable, sometimes being narrowly ovate-lanceolate, and somewhat falcate, or even linear, or so short and broad as to be almost ovate ; *A. mœsta* of the *Botanical Register* may even be a peculiarly broad variety. From *A. verticillata* the Oxycedrus is distinguished by its phyllodes having three or four distinct stout ribs, and not being whorled, its much stouter and more erect habit, and its larger and finer flower spikes.

ACACIA DIFFUSA. *Ker.* (*alias* A. prostrata *Loddiges.*) A handsome leguminous bush, from Van Diemen's Land, with numerous balls of bright yellow flowers appearing in midwinter. (Fig. 148.)



148

Although this has naturally a trailing mode of growth, yet it readily lends itself to the art of the gardener, and, by a little management, will assume the form of a close compact bush. It is extremely common in Van Diemen's Land ; varying greatly in the size and shape of the phyllodes (leaves), and in the length of the flower-stalks, which are sometimes nearly sessile, and sometimes on long stalks as in our figure. The phyllodes have a single rib, running from end to end, and terminating in a hard spine ; and, near their base, often appears a small oval gland, but this is frequently missing. When dry or old the phyllodes seem to have several veins lying irregularly by the side of the midrib ; but in reality this appearance is produced by the shrinking of the parenchyma, and the seeming veins are merely wrinkles. Although there is no difference whatever between the *Acacia*

diffusa of Ker, and the plant afterwards published under the name of *prostrata*, in the *Botanical Cabinet*, yet we find specimens bearing in gardens both names, and not uncommonly with both names misapplied. The accompanying figure represents a piece of a very vigorous plant growing, as it should grow, when cultivated properly.

In Van Diemen's Land there is another species like this, and probably in our gardens, viz., the *A. siliculæformis* of Cunningham, a much smaller plant, with very smooth, almost shining, phyllodes, which never become wrinkled, and are not more than half the size of those of *A. diffusa*.

ACACIA UROPHYLLA. *Bentham.* (*alias* Acacia smilacifolia *Fielding, Sertum Plantarum*, t. 3. (1843).) A handsome greenhouse shrub, with pale yellow balls of flowers. Native of Swan River Colony. Flowers in January and February.

"Would that all the species of the vast group of phyllodineous *Acaciæ* were as easily defined as this. The phyllodia are here of a very peculiar character, generally broad ovate, subfalcate, almost spinescently acuminated, with longitudinal and transverse nerves, as in *Smilax*, whence the appropriate name of Mr. Fielding. The plant was raised from seeds, sent in 1843, by Mr. Drummond, from the Swan River Colony. It flowers in January and February."—*Bot. Mag.*, t. 4573. (According to Preiss among mud and stones in shady places, among the mountains continuing Darlings range, not far from the head-waters of the Swan ; and also in damp shady places on the river Canning, flowering in the cold season.)

It is described as a moderate-sized shrub, with angular branches, and the young phyllodes pubescent. Phyllodes obliquely ovate, slightly falcate, drawn into a slender setaceous point, hairy or glabrous, the upper edge obscurely crenate, the two surfaces marked with three nearly equidistant nerves, united by transverse ones, tapering at the base more or less gradually into a rather short footstalk, which bears a conspicuous gland at its summit above. Stipules two, minute, subulate, red, spinescent. Peduncles two to five from one axil, each much shorter than the leaf, longer than the petiole, each bearing a single head of pale yellow flowers, acute lobes.

QUERCUS AGRIFOLIA. *Née.* A hardy evergreen oak from California. Introduced by the Horticultural Society.

A few miserable living plants of this species were sent home by Hartweg from California, and grew in the Society's Garden. Nuttall, who knew it in its native country, has the following remarks :—

"This species, almost the only one which attains the magnitude of a tree in Upper California, is abundantly dispersed over the plain on which St. Barbara is situated, and, being evergreen, forms a conspicuous and predominant feature in the vegetation of this remote and singular part of the Western world. It appears more sparingly around Monterey, and scarcely extends on the north as far as the line of the Oregon territory. It attains the height of about 40 or 50 feet, with a diameter rarely exceeding 18 inches ; the bark is nearly as rough as in the Red Oak. The wood, hard and brittle and reddish, is used only for purposes of fuel, or the coarse construction of log-cabins.

"As an ornamental tree for the south of Europe or the warmer States of the Union, we may recommend this species. It forms a roundish summit, and spreads but little till it attains a considerable age. As a hedge it would form a very close shelter, and the leaves, evergreen and nearly as prickly as a holly, would render it almost impervious to most animals. The leaves vary from roundish ovate to elliptic, and are of a thick rigid consistence ; the serratures are quite sharp ; the young shoots are covered more or less with stellate hairs, and for some time tufts of this kind of down remain on the under side of the midrib of the leaves, which are, however, at length perfectly smooth, and of a dark-green above, often tinged with brownish yellow beneath. The staminiferous flowers are very abundant, and rather conspicuous; the racemes the length of 3 or 4 inches ; the flowers with a conspicuous calyx and 8 or 10 stamens ; the female or fruit-bearing flowers are usually in pairs in the axils, or juncture of the leaf with the stem, and sessile, or without stalks. The cup of the acorn is hemispherical, and furnished with loose brownish scales ; the acorn, much longer than the cup, is ovate and pointed. We do not recollect to have seen this tree properly associated with any other, except occasionally the *Platanus racemosa ;* their shade is hostile to almost every kind of undergrowth. By Persoon this species is said to have been found on the eastern coast of North America, while Pursh attributes it to the north-west coast, about Nootka Sound. It does not, however, extend even to the territory of Oregon, as far as my observation goes." Née says, "I have only seen branches collected at Monterey and Nootka. The leaves of the young plants are perfectly smooth when first developed, of a thin consistence, with numerous slender sharp dentures beneath ; they are of a brownish yellow colour, and appear smooth and shining." The long narrow acorns, almost conical, are a remarkable feature in the species.—*Journal of the Horticultural Society*, vol. vi., p. 157.

CHYSIS AUREA. *Lindley.* A stove epiphyte belonging to Orchids, with rich golden yellow flowers. Native of Equatorial America. Flowers in January.

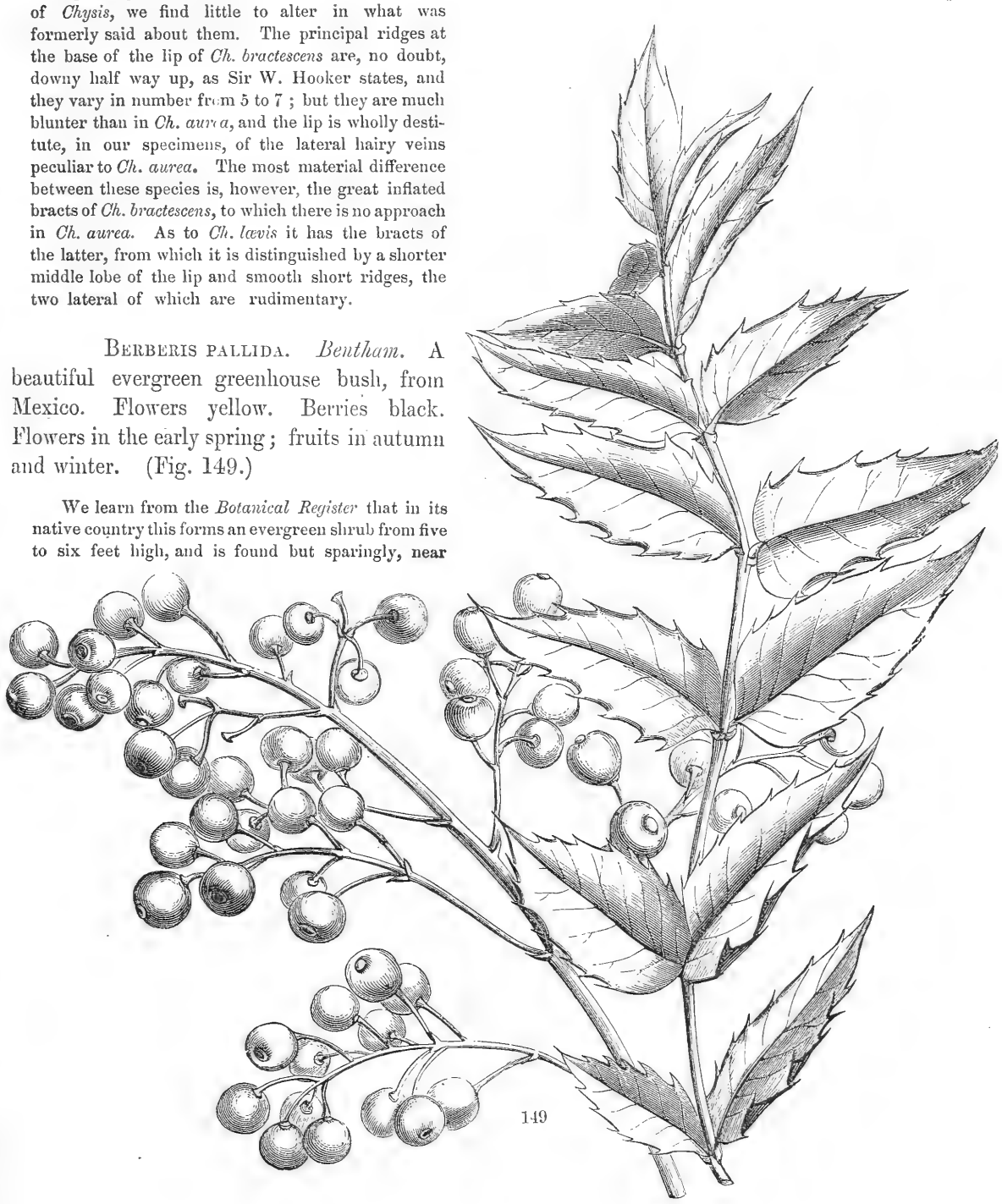
From the collection of Messrs. Lucombe and Pince, of Exeter, by whom it was purchased at one of Mr. Stevens's sales of Columbian Orchideæ, in 1850, as the "Red Bull's-mouth." The specimen figured in the *Bot. Mag.* t. 4576, under the name of *Ch. aurea*, var. *maculata*, Sir W. Hooker was at first disposed to consider a distinct species from *C. aurea, lævis*, or *bractescens*, but a further investigation led him to the conclusion that it was rather a highly coloured variety of *C. aurea*, to which he observes that "*C. bractescens* is very nearly allied, nor do I find the chief distinction which

Dr. Lindley lays stress upon, available ; viz. that on the labellum of *C. aurea* there are five principal ridges, and three minor ones on each side, all downy and diverging, 'while in *C. bractescens* there are five equal ridges all smooth and parallel. In our drawing of *C. bractescens*, now before us, the five ridges are all downy in their lower half, while in *C. aurea*, both α and β, the three lesser lateral ridges appear rather a kind of venation, such as is seen in the middle lobe also. In *C. bractescens*, the bracteas are larger and very concave, and the flowers are larger, and the lateral lobes of the labellum are larger than in *C. aurea*. The flowers are very fragrant.' "

Upon again referring to the materials in our possession for illustrating the differences in the three species of *Chysis*, we find little to alter in what was formerly said about them. The principal ridges at the base of the lip of *Ch. bractescens* are, no doubt, downy half way up, as Sir W. Hooker states, and they vary in number from 5 to 7 ; but they are much blunter than in *Ch. aurea*, and the lip is wholly destitute, in our specimens, of the lateral hairy veins peculiar to *Ch. aurea*. The most material difference between these species is, however, the great inflated bracts of *Ch. bractescens*, to which there is no approach in *Ch. aurea*. As to *Ch. lævis* it has the bracts of the latter, from which it is distinguished by a shorter middle lobe of the lip and smooth short ridges, the two lateral of which are rudimentary.

BERBERIS PALLIDA. *Bentham.* A beautiful evergreen greenhouse bush, from Mexico. Flowers yellow. Berries black. Flowers in the early spring; fruits in autumn and winter. (Fig. 149.)

We learn from the *Botanical Register* that in its native country this forms an evergreen shrub from five to six feet high, and is found but sparingly, near



149

Cardonal and Zimapan, on mountains thinly covered with *Pinus Llaveana*. Hartweg also met with it near the hot springs of Atotonilco El Grande, but nowhere in any quantity. It is easily distinguished by its dry hard leaves and pale yellow flowers. The wood is also said to be of a lighter colour than in any other species. It grows freely when potted in a mixture of sandy loam and leaf-mould, to which is added a small portion of rough bone-dust. It may be increased like other pinnated berberries, by grafting on the common *B. Aquifolium*, either in spring or autumn, when the young shoots are nearly hard. The chief beauty of the plant resides in its graceful manner of growth and its light airy foliage. Its flowers are pallid and not dense enough to produce a handsome effect. When in fruit its large loose panicles of deep purple glaucous berries are ornamental enough ; but their acid taste belies their tempting appearance. The species is unable to bear the winters of London without the protection of a greenhouse.

Pitcairnia fulgens. *Decaisne.* A stove herbaceous plant of the order of Bromeliads. Native of Guadaloupe. Flowers crimson.

Leaves spiny at the base, mealy beneath, as is the flower stem ; raceme very close, with great pale green smooth bracts longer than the calyx ; petals straight, two inches long, rich scarlet, linear-oblong, rounded, concave, with a crenated scale at the base. One of the Linden Collection seems to be handsome.

Dendrobium nobile, var. nobilius. No doubt this is by far the finest of the many fine forms existent of this most beautiful old plant, which for general decorative purposes has few if any superiors in the whole family of Orchids. The flowers are large, petals and sepals deep bright purple, with an intensely dark lip.

Babiana Socotrana. A singular small growing bulbous plant, from the island of Socotra, recently flowered at Kew, where it has been grown with the protection of a glass erection. The flowers are solitary, and pale violet in colour. The bulb is about the size of an ordinary crocus. To those who make bulbous subjects a speciality, this will be welcome, for although not so floriferous as many things, it is an interesting plant. No doubt it will succeed under pot culture in ordinary soil.

Perfectly glabrous, stemless, three to four inches high. Bulbs one-half to three-quarters of an inch in diameter, subglobose, suddenly narrowed into a neck half an inch long, clothed with firmly reticulated brown fibres. Leaves bifarious, three to four inches long by three-quarters of an inch broad, narrowly lanceolate, gradually acuminate from beyond the middle, rigid, plaited, and with many strong nerves ; petiole oblique, broad, compressed. Flowers solitary, almost sessile, the ovary being sunk amongst the uppermost leaves. Spathes linear. Perianth-tube an inch and a quarter long, very slender ; limb nearly one inch broad, pale violet blue, distinctly two-lipped ; segments elliptic, acute, nearly equal. Stigmas not much protruded, deep violet-blue.—*Botanical Mayazine*, 6585.

Adiantum Victoriæ. *Moore.* This new Fern was shown at the meeting of the Royal Horticultural Society in February, 1882, and was awarded a First Class Certificate by the Floral Committee. It is a seedling raised by Mr. Bause, manager of the Horticultural Company's Anerley Nursery, and is supposed to be a cross between *A. Ghiesbreghtii* (*scutum*) and *A. decorum*, having, however, much more similarity to the former species, the sportive tendency in the offspring of which already evinced, leaves the matter of its being a cross somewhat doubtful. Yet be this as it may, the new plant is a very pretty Fern with a remarkably distinct habit of growth, showing little disposition in the fronds to extend more than so as to form a close compact tuft. It will doubtless become a favourite for pot culture, and can be used for decorative purposes where larger growing kinds would be inadmissible.

Habit dwarf and densely tufted, fronds ovate, bipinnate, with about one pair of compound pinnæ, and four or five simple pinnæ above ; pinnules (or pinnæ of the upper part of frond) bluntly conical from the straight or truncate base, or sometimes subrhomboidal, large, deeply lobed, the sterile lobes serrate, sori at the apex of the lobes oblong or reniform. —*Gardener's Chronicle*, N.S., vol. xvii., p. 428.

THE LONG-PETALED EPIDENDRUM
(EPIDENDRUM LONGIPETALUM.)

[PLATE 49.]

THE LONG-PETALED EPIDENDRUM.

(EPIDENDRUM LONGIPETALUM.)

A Stove Epiphyte, from GUATEMALA, *belonging to the Natural Order of* ORCHIDS.

Specific Character.

THE LONG-PETALED EPIDENDRUM.—Pseudo-bulbs ovate. Leaves in pairs, straight, sword-shaped, blunt. Panicle loose, much longer than the leaves. Sepals and petals alike in form, spathulate, stalked, blunt. Lip posterior, free, three-lobed; the stalk callous and concave, the segments rounded, those at the side erect, that in the middle convex, much larger, notched at the end, wavy, with numerous elevated coloured radiating veins.

Epidendrum aromaticum, var. *of some Gardens.*

FROM a horticultural point of view, the genus *Epidendrum* does not furnish near so many species worthy of the cultivator's attention as are to be found in some other genera of Orchids individually much less numerous. One of the handsomest of all the species is *E. bicornutum*, indigenous to Jamaica; it has the character of being difficult to keep in health, but when subjected to more light and air, along with the warm treatment indispensable for all plants from this hot country, it thrives satisfactorily. *E. nemorale*, a Mexican species bearing graceful panicles of soft purplish flowers, and *E. aurantiacum*, with its bright orange coloured flowers, a native of Guatemala, are both distinct and beautiful kinds. One circumstance connected with the genus *Epidendrum* worth taking into account is the length of time the flowers of most of the species last; in this obviously important property they are superior to most Orchids. The two forms of *E. macrochilum*—the purple and the white—from South America, and the Mexican *E. vitellinum*, with its bright orange flowers, are especially remarkable in this respect, lasting for a couple of months in fresh condition.

The plant under notice is very sweet-scented, with a long straggling panicle of dull brownish-purple and green petals relieved by a white lip, beautifully marked by straight crimson veins on a yellow ground. It is a native of Guatemala, whence the Horticultural Society obtained it, and requires all the heat of a good orchid house, combined with a long and

perfect rest for at least four months. Treated thus, it flowers abundantly, and remains in perfection for several weeks.

The species belongs to the division of Encyclian Epidendrums, having a membranous lip with three deep lobes, of which the middle one is blunt, or very slightly acute, and a smooth rachis. Of that large division the species at present known are the following:—

E. fucatum *Lindl. in Bot. Reg.*, 1828, *misc.* 17; (*E. polyanthum* French Gardens); pseudobulbis subrotundo-ovatis cæspitosis monophyllis, foliis ligulatis coriaceis obtusis scapo brevioribus, paniculâ nutante multiflorâ, bracteis ovatis acutis squamiformibus, sepalis petalisque lineari-oblongis tessellatis æqualibus obtusis conniventibus, labelli liberi tripartiti lobis lateralibus erectis linearibus apice rotundatis intermedio acuto ovali multò brevioribus, callo sulcato plano elevato ad basin lobi intermedii.—*Cuba.*—Flowers small, dull yellow, tessellated, with a pink spot in the centre of a white lip.

E. chloroleucum *Hooker in Bot. Mag.*, t. 3557; (*E. chloranthum* Lindl. in Bot. Reg., 1838, misc. 28); pseudobulbosum, foliis coriaceis ligulatis apice rotundatis obscurè bilobis inæqualibus, racemo erecto paniculato, sepalis petalisque subæqualibus lineari-lanceolatis obovatis, labelli trilobi liberi lobis lateralibus linearibus obtusis inflexis intermedio ovato acuminato crispulo multò brevioribus: disco venis elevatis calloso.—*Demerara.*—Flowers pale green without spots, and a white lip.

E. virgatum *Lindl. in Hooker's Journ.*, iii. 83; pseudobulbis ovatis oblongisve sub-compressis rugosis, foliis binis ternisque convexis subundulatis acutis glaucis unciam latis, paniculâ virgatâ ramis longis gracilibus, sepalis lanceolatis petalisque duplò angustioribus patentibus discoloribus, labelli hastati lobis lateralibus acutis patentibus intermedio subrotundo-obovato acuto; callo maximo rotundato pone basin.—*Mexico.*—The habit of *E. vitellinum*, but with more glaucous leaves. Flowers small, dirty green stained with brown, arranged in a very long lax graceful panicle, the branches of which are simple, and sometimes as much as a foot long, with nearly twenty flowers on each. The lip is whitish yellow. Scape sometimes seven feet high.

E. brachiatum *A. Richard*; "pseudobulbis ovoideis 1-phyllis; fol. oblongo-elliptico acuto; flor parvulis numerosis, brunneis, paniculatis: labello albido trilobo, lobis lateralibus angustis falcatis, intermedio obovali acuto."—*Mexico.*

E. Linkianum *Klotzsch in Allg. gartenzeit, Sept.* 22, 1829; (*E. pastoris* Link et Otto abbild. t. 12); pseudobulbis fusiformibus 2-3-phyllis, foliis ensiformibus recurvis racemo paucifloro longioribus, sepalis patentissimis linearilanceolatis, petalis conformibus angustioribus, labelli lobis lateralibus minutis erectis intermedio ovato-oblongo crispo venis elevatis sub columnâ pubescente.—*Mexico.*—Flowers small dull yellow, streaked with purple. Lip nearly white.

E. concolor *L. no.* 12.; foliis in pseudobulbos confertos lenticulares solitariis lato-lanceolatis-acutis, scapo filiformi 5-floro, sepalis ligulatis, petalis linearibus, labello tripartito laciniis integris intermediâ majore.—*Mexico.*—A slender plant. Flowers pale yellow, whole coloured, with a striated labellum.

E. Pastoris *L. no.* 7; *Klotzsch in Allg. gartenzeit, Sept.* 22, 1838; "caule repente radicante, pseudobulbis oblongis compressis 2-3-phyllis, foliis linearibus acutis carinatis laxiusculo-subtortuosis, floribus racemosis, perianthii foliolis patenti-subincurvis margine recurvis extus sordide flavis intus lineis longitudinalibus purpureo-fuscis striatis, sepalis lineari-subspathulatis acuminatis, petalis spathulatis acutis, labello trilobo albido dein luteo lobis lateralibus majoribus basi semilunatis integerrimis glabris lævibus basin columnæ orbiculatim amplectentibus lituris transversalibus purpureis medio cordato deflexo minore glabro acuto margine basique recurvo punctis minutis purpureis ornato, columnâ semitereti fuscâ ad apicem luteâ tridentatâ dentibus obtusis, pericarpiis elongatis acuto-triquetris."—*Mexico.*—Flowers fragrant, like Vanilla.

E. Ovulum *Lindl. in Bot. Reg.*, 1843, *misc.* 71; pseudobulbis oviformibus diphyllis, foliis linearibus canaliculatis acutis, scapo filiformi foliis paulò longiore 3-floro, sepalis linearibus 3-veniis, petalis angustioribus spathulatis, labelli trilobi lobis lateralibus acutis intermedio dilatato rotundato venis radiantibus glandulosis variegato, columnæ tridentatæ dentibus lateralibus rotundatis denticulatis.—*Mexico.*—A curious little plant, in the way of *E. pastoris*, or *bractescens*, or *aciculare*. The sepals and petals are olive-green; the lip white, with crimson glandular radiating veins.

E. bractescens *Lindl. in Bot. Reg.*, 1840, *misc.* 122; pseudobulbis ovatis cæspitosis 3-4-phyllis, foliis linearibus, scapo debili 3-4-floro, bracteis infimis foliaceis floribus longioribus supremis obsoletis, floribus nutantibus longè pedunculatis, sepalis petalisque lineari-lanceolatis acuminatis discoloribus labello longioribus, labelli liberi lobis lateralibus apice recurvis obtusis subdentatis intermedio unguiculato subrotundo-ovato multò longiore secus unguem elevato sulcato pubescente.—*Mexico.*—This is one of the prettiest of the small species. The pseudobulbs are exactly ovate, closely clustered, and about as large as a pigeon's egg. The flowers have a beautifully but delicately painted white lip, the gay effect of which is heightened by the contrast with the dingy purple of the long narrow sepals and petals.

E. aciculare *Bateman in Bot. Reg*, 1841, *misc.* 98; pseudobulbis oblongis diphyllis, foliis linearibus canaliculatis acutis racemo simplici æqualibus, sepalis petalisque linearilanceolatis æqualibus acutis, labelli laciniis lateralibus

ascendentibus linearibus obtusis apice recurvis intermediâ ovato-oblongâ subundulatâ (pictâ) acutâ.— *Bahamas.*— A gay little species, with long narrow leaves, a slender erect raceme of six or seven flowers, whose sepals and petals are dull purple, and lip white, enlivened with rosy veins.

E. pictum *Lindl. in Bot. Reg.*, 1838, *misc.* 43; pseudobulbosum, foliis ligulatis coriaceis obtusis dorso rotundatis, racemo erecto paniculato, sepalis petalisque obovato-linearibus subæqualibus, labelli trilobi liberi lobis lateralibus linearibus acutiusculis subfalcatis columnam amplexantibus margine anteriore plicato intermedio ovali acuto crispo multò brevioribus, disco venis elevatis calloso.—*Demerara.* —Resembles *E. odoratissimum;* with dull yellow flowers, neatly striped with crimson. It is nearly related to *E. chloroleucum*, from which its leaves readily distinguish it.

E. graniticum *Lindl. in Hooker's Journ.*, iii. 83; pseudobulbis ovatis attenuatis 2-phyllis, foliis ensiformibus paniculâ multiflorâ brevioribus, sepalis petalisque patentibus lanceolatis subæqualibus acutis, labelli trilobi laciniis lateralibus lineari-oblongis obtusis intermediâ unguiculatâ obovatâ apice inflexo acuto : callo elevato acuminato secus medium canaliculato, columnâ sub apice auriculatâ.—*Guayana.* —A fine species closely allied to *E. flavum.* It has a panicle regularly branched up to the apex, nearly a foot and a half long, with each side branch having from 2-4 flowers. According to Mr. Schomburgk, the sepals and petals are green dotted with purple, the labellum white with a purple stain at its base, the flowers aromatic, the stem six feet high.

E. gracile *Lindl. in Bot. Reg.*, t. 1765; foliis in pseudobulbos ovatos corrugatos pluribus lorato-ensiformibus, racemo simplici longissimo, sepalis oblongis petalisque cuneatis patentibus, labelli ferè liberi trilobi lobis lateralibus semiovatis intermedio oblongo crispo obtusissimo duplò minoribus disco bicostato.—*Bahamas.*—Flowers green, lip yellow, lined with purple.

E. viridiflorum *Lindl. in Bot. Reg.; (Encyclia viridiflora* Hooker in Bot. Mag. xv. t. 2831; L. p. 111); pseudobulbis ovatis diphyllis, foliis ensiformibus recurvis acutis paniculâ brevioribus, sepalis lateralibus falcatis petalisque linearibus acutis erectis, labello postico apice 3-lobo laciniis lateralibus planis intermediæ ovatæ crispæ æqualibus: callo basi duplici oblongo carnoso.—*Brazil.*—Flowers dull green, marked with dull purple.

E. glutinosum *Scheidweiler in Gartenzeit*, 1843, p. 110; "foliis in pseudobulbos pyriformes tunicatos glabros, binis linearibus coriaceis oblique truncatis, racemo subsimplici pedicellisque glutinosis, sepalis oblongis acuminatis petalisque spathulatis patentibus, labelli fere liberi trilobi lobis lateralibus oblongis obtusis integris erectis, intermedio ovato crispato, disco calloso depresso, columna bidentata. Scapus terminalis pedalis, petala et sepala viridi-purpurea, extus lineis purpureis notata, labellum albo-lutescens, lobo intermedio lineis purpureis ornato."—*Rio Janeiro.*— According to Mr. Scheidweiler, very near *Epidendrum odoratissimum*, which he considers identical with the *Encyclia patens* of Hooker and *Macradenia lutescens* of Loddiges. Its scape is a foot high. The petals and sepals are greenish purple, marked outside with purple lines. The lip is whitish yellow, its middle lobe being marked with purple lines.

E. rufum *Lindl. in Bot. Reg.*, 1845, *misc.* 42; pseudobulbis pyriformibus 2-3-phyllis, foliis brevibus lanceolato-ligulatis patentibus scapo paniculato brevioribus, sepalis petalisque ovalibus acutis subcarnosis, labelli trilobi laciniis lateralibus brevibus semiovatis intermediâ obovato-oblongâ convexâ margine revolutâ apice rotundatâ basi secus axin elevatâ carnosâ, columnâ membranaceo-marginatâ.— *Brazil.*

E. flavum *Lindl. in Hooker's Journ.*, iii. 83; pseudobulbis ovatis attenuatis 3-phyllis, foliis ensiformibus paniculæ pauciforæ subæqualibus, sepalis petalisque patentibus subæqualibus lineari-oblongis obtusis, labelli trilobi laciniis lateralibus linearibus truncatis intermediâ unguiculatâ obovatâ nudâ, columnâ sub apice auriculatâ.—*Brazil.*— Leaves of this rather more than a foot long. Flowers pale yellow, about an inch and a half in diameter. The inflorescence is only panicled at the base, and is probably very often simple.

E. pachyanthum *Lindl. in Bot. Reg.*, 1838, *misc.* 42; pseudobulbosum, foliis lato-ligulatis subundulatis apice obliquè obtusis dorso rotundatis, perianthio carnoso herbaceo, sepalis lanceolatis, petalis obovato-lanceolatis apice complicatis, labelli liberi trilobi laciniis lateralibus ascendentibus truncatis intermediâ spathulatâ acutâ basi callosâ trilineatâ convexâ inappendiculatâ multò brevioribus.— *Guayana.*—A large green-flowered species. Its leaves are thinner and broader than is usual among these Epidendra, and a little wavy at the margin. The flowers are fully two inches in diameter, thick and fleshy, dull green, stained with a dirty reddish brown towards the ends of the sepals and petals. The labellum is a pale straw-colour, streaked along the middle with violet.

E. primulinum *Bateman MSS.;* pseudobulbis . . . . , foliis . . . . , scapo paniculato, sepalis petalisque patulis oblongis acutis, labelli laciniis lateralibus nanis erectis acutis intermediâ obovatâ apiculatâ; callo duplici ad basin elevato plano carnoso.—*Mexico.*—Flowers rather large, in a close erect panicle, smelling of primroses.

E. altissimum *Bateman in Bot. Reg.*, 1838, *misc.* 61; pseudobulbis elongatis teretibus 2-3-phyllis, scapis ramosis longissimis, sepalis lineari-oblongis acutis, petalis conformibus basi angustatis, labelli liberi lobis lateralibus dimidiatis erectis tortis obtusis intermedio dilatato undulato recurvo apiculato basi bicostato.—*Bahamas.*—Flowers scented with beeswax. Very like *E. oncidioides.*

E. longipetalum *of this article.*

E. Humboldtii *Reichenbach fil. in Linnæa;* "p. ph. e. oblongis acutis basi aliquid cuneatis, p. ph. i. obtusis basi valde cuneatis, sub apice dilatatis, lb. maximo trilobo, basi ima cuneato, lobis lateralibus integris obtusatis, lobo medio maximo subquadrato, antice emarginato, margine denti-

culato, nervis 7 medianis elevatis a basi ad centrum cristigeris, cristis crenato-serratis, gy. postice carinato, androclinii margine tridentato, interjecto dente antice rostellari."—*Puerto Caballo.*

E. virens; paniculâ laxâ erectâ angustâ, sepalis lineari-oblongis apice latioribus, petalis æquilongis spathulatis acutis, labelli laciniis subæqualibus lateralibus erectis oblongis emarginatis intermediâ convexâ plicatâ venosâ emarginatâ mucronulatâ.—*Guatemala.*—Flowers green, whole coloured, except the lip, which is white, with crimson veins in the middle lobe; the lateral lobes green, with crimson veins, but white at the point.

E. venosum *L. no.* 13; foliis ensiformibus obtusis supra et sub pseudobulbos fusiformes nascentibus, racemo striato simplici, sepalis lineari-lanceolatis petalisque angustioribus patentissimis, labello semilibero tripartito: laciniis lateralibus ovatis acutis intermediâ subrotundâ apiculatâ multò majore callo baseos et lineis tribus disci subramosis elevatis.—*Mexico.*—Scape a foot long. Lip half united to the column, white, with elevated violet veins.

E. aromaticum *Bateman, Orch. Mex.*, t. 39; (*E. incumbens* Lindl. in Bot Reg, 1840, misc. 84); floribus densè paniculatis, sepalis linearibus patentissimis basi angustatis, petalis conformibus sed paulò latioribus, labelli postici lobis lateralibus triangularibus acuminatis intermedio subrotundo-ovato apiculato venis elevatis cristato, callis duobus oblongis secus unguem.—*Guatemala.*—Flowers very sweet; in large pale dull yellow panicles. It inhabits a climate whose temperature varies from 60° to 75°.

E. alatum *Bateman, Orch. Mex.*, t. 18.; *Bot. Reg.*, 1846, t. 53; (*Epid. calocheilum* Hooker in Bot. Mag., t. 3898); pseudobulbis ovato-oblongis diphyllis, foliis ensiformibus obtusis coriaceis obsoletè striatis paniculâ multiflorâ brevioribus, sepalis petalisque lineari-oblongis spathulatis uniformibus patentibus, labello profundè trilobo basi intùs bicarinato lobis lateralibus eroso-dentatis rotundatis intermedio oblongo undulato multò brevioribus omnium venis callosis et verrucosis, columnæ alis rotundatis.—*Guatemala.*—Its pale colour, and the peculiar markings upon its lip, at once distinguish it. These markings consist of reddish warts, plates, scales, or elevations, of various forms, arranged upon the veins, and therefore spreading from the base.

E. tripterum *Lindl. in Hooker's Journ.*, iii. 83; pseudobulbis ovalibus compressis diphyllis, foliis lineari-oblongis obtusis racemo paucifloro (4—6) subæqualibus, floribus erectis sepalis petalisque lineari-lanceolatis patulis, labelli trilobi lobis lateralibus linearibus obtusis planis intermedio subrotundo basi angustato undulato venis rugosis elevatis, capsulâ augustâ clavatâ tripterâ.—*Mexico.*—The whole plant when in bloom little more than six inches high. Flowers apparently dull purple, with a pale lip, on long peduncles, and erect not drooping.

N.B.—In the above references, *L.* signifies Lindley's Genera et Species Orchidacearum.

THE GILLIES POINCIANA.
POINCIANA GILLIESII.

[Plate 50.]

THE GILLIES POINCIANA.

(POINCIANA GILLIESII.)

A Half-hardy Shrub, of great beauty, from Chili, *belonging to the Order of* Leguminous Plants.

Specific Character.

THE GILLIES POINCIANA.—Unarmed. Leaves bipinnate; leaflets in about twelve rows on a side, oblong. Rachis, bracts, &c., covered with a coarse brown glandular coating. Sepals fringed with hairs and glands, disarticulating at the base, closely covered when young by bracts of the same nature. Petals erect. Stamens very long, red.

Poinciana Gilliesii, *Hooker, Bot. Miscell.* t. 129, *Bot. Mag.* t. 4006; *alias* Erythrostemon Gilliesii, *Link, Klotzsch,* and *Otto, Icones plantarum,* t. 39; *alias* Cæsalpinia Gilliesii, *Wallich; alias* "Cæs. macrantha, *Delile Ind. Sem. Monsp.* 1838."

ALTHOUGH this fine plant is not new, yet it is so very singular as to deserve being once more brought before the public by means of a coloured figure. According to Dr. Gillies, its discoverer in Mendoza, an arid province of the republic of Chili, it is "called by the natives *Mal de Ojos,* and is very abundant in the cultivated parts of the province, where it has the benefit of the water used in irrigation, seeming to be incapable of living on the dry arid lands which are not under cultivation. Along the southern frontier of the province of Mendoza, between the rivers Diamante and Atuel, it is found abundantly with other shrubs in sheltered situations; also among thickets along the western side of the Rio Quarto, near the western boundary of the Pampas; those plants to be found growing in Buenos Ayres owing their origin to seeds sent from Mendoza. They do not ascend farther than to the foot of the mountains, neither are any traces of them to be seen in the province of San Juan, which follows Mendoza to the north, along the foot of the Cordillera of the Andes. The flowers have a sickly, disagreeable smell, and are supposed by the common people to be injurious to the sight. Hence its vernacular name, '*Mal de Ojos.*'"

It has flowered in this country, in the open air, during summer. The specimen now represented was so produced in the nursery of Messrs. Knight and Perry, where it was trained to a wall, and blossomed in July. We cannot, however, hope to see it in beauty unless guarded from severe frosts, as when against a "conservative wall."

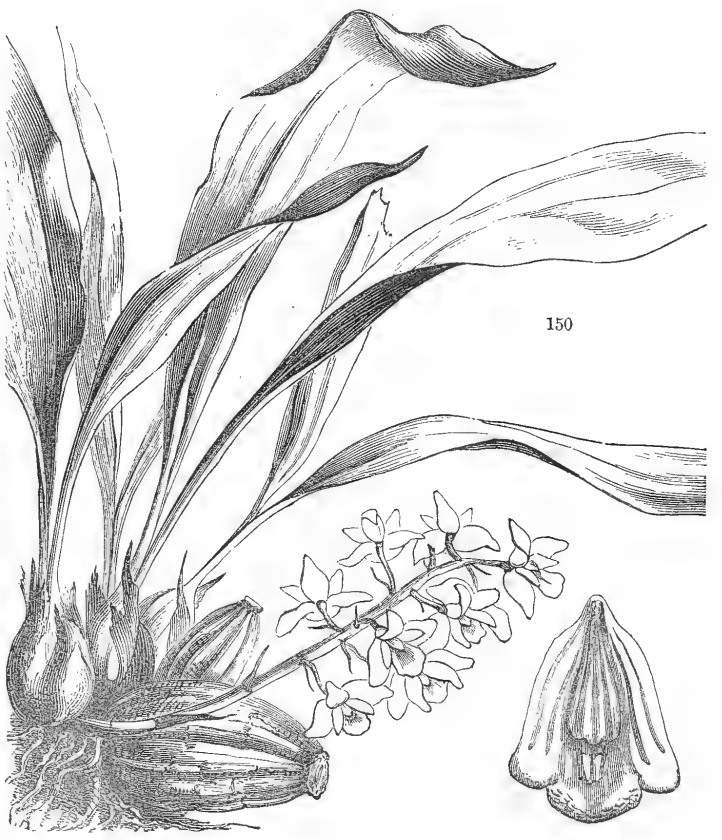
Sir W. Hooker, who first published it, refers it without hesitation to the genus *Poinciana* of Tournefort; Wallich and Delile placed it in *Cæsalpinia;* and Dr. Klotzsch has formed out of it a new genus called *Erythrostemon*, concerning which he writes: "*Erythrostemon* differs from *Poinciana* in its pod, and in its sulphur-yellow unexpanded flowers; from *Cæsalpinia* in the enormous length of its stamens; from *Heterostemon* in its long distinct stamens; from all those genera in its polygamous flowers." He also gives a description of the pod of the plant, which, although unacknowledged, is, we observe, little more than a copy of Sir William Hooker's statement concerning it.

Probably it is not a true *Poinciana*, that is to say a legal associate of *Poinciana elata*, from which its *deciduous* calyx, its long decurved stamens, and its erect petals seem to separate it, independently of any peculiarity in the legume; but in the absence of a more full acquaintance with these species, we abstain from interfering with Sir William Hooker's name. As Mr. Bentham observes to us, "If *Poinciana elata* be taken as the true type of the genus, *P. Gilliesii* is scarcely a congener, and Klotzsch's name may possibly be adopted. *P. pulcherrima* cannot be generically separated from *Cæsalpinia*. But whether *P. Gilliesii* be really distinct or not from *Cæsalpinia* remains to be investigated."

GLEANINGS AND ORIGINAL MEMORANDA.

MAXILLARIA CONCAVA. *Lindley.* A pale yellow-flowered Epiphyte, from Guatemala, belonging to Orchids. Blossoms in November. (Fig. 150, diminished, with a magnified view of the lip.)

One of the less interesting of the racemose Maxillarias. The flowers are pale yellow; the lip is almost truncate, concave, bluntly 3-toothed, with the middle lobe somewhat fleshy, and tuberculated at the edge; marked with rose-coloured veins, with a long narrow ridge in the middle, 3-lobed at the point. It is nearest *M. bracteata*, but its flowers are smaller, the bracts very small and bristly, and the lip of quite another form.



150

PERSEA GRATISSIMA. *Gærtner.* (*alias* Laurus Persea *Linnæus.*) A tree from the West Indies, where it produces the fruit called the Alligator Pear. Flowers green, downy, in panicles. Belongs to the order of Laurels.

"The 'Avocado,' or 'Alligator Pear,' yields a fruit never, that I am aware, known to be produced in Europe; nor am I aware that it has ever flowered in our stoves, save at Syon and Kew. In the West Indies it is highly valued, and cultivated, and in tropical America generally. It is presumed to be an aboriginal of these countries; though some say imported to the islands from the South American continent. Why called *Alligator Pear* is not very evident. Perhaps the first word is a corruption of *Aguacate*, one of the names by which, according to Ulloa, it is known in Lima. The fruit is pear-shaped, yellow or brownish-green, often tinged with deep purple. Between the skin and the hard seed is a pale butyraceous substance, interspersed with greenish veins, and this is much eaten by all classes of people; its taste somewhat resembling butter or marrow, and hence is called the 'vegetable marrow:' and this is so rich and mild that most people make use of some spice or pungent

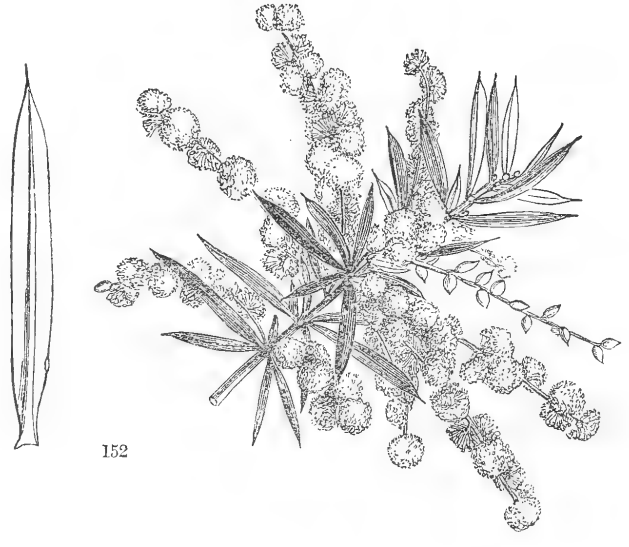
substance to give it poignancy; and wine, sugar, lime-juice, but mostly pepper and salt, are used. However excellent when ripe, the *Avocado* is very dangerous if pulled and eaten before maturity, being known to produce fever and dysentery. 'If you take the stone of the seed,' says Barham, 'and write upon a white wall, the letters will turn as red as blood, and never go out till the wall is whitewashed again, and then with difficulty.'"—*Botanical Magazine*, t. 4580.

BROWALLIA JAMIESONI. *Bentham.* A handsome greenhouse shrub, with orange-yellow flowers, belonging to Linariads. Native of Peru. Blossoms in the autumn. Introduced by Messrs. Veitch and Co. (Fig. 151.)

151

This very pretty shrub inhabits various parts of the kingdom of New Granada, near Loxa, &c. It forms a neat dark-leaved bush, with stalked, oblong, wrinkled leaves, and solitary, axillary, orange-yellow flowers, which, when the plant is very healthy, are collected into small terminal corymbs.

ACACIA VERTICILLATA. *Willdenow.* A loose, straggling, prickly, greenhouse shrub. Native of Van Diemen's Land. Flowers, light yellow, in March and April. (Fig. 152.)



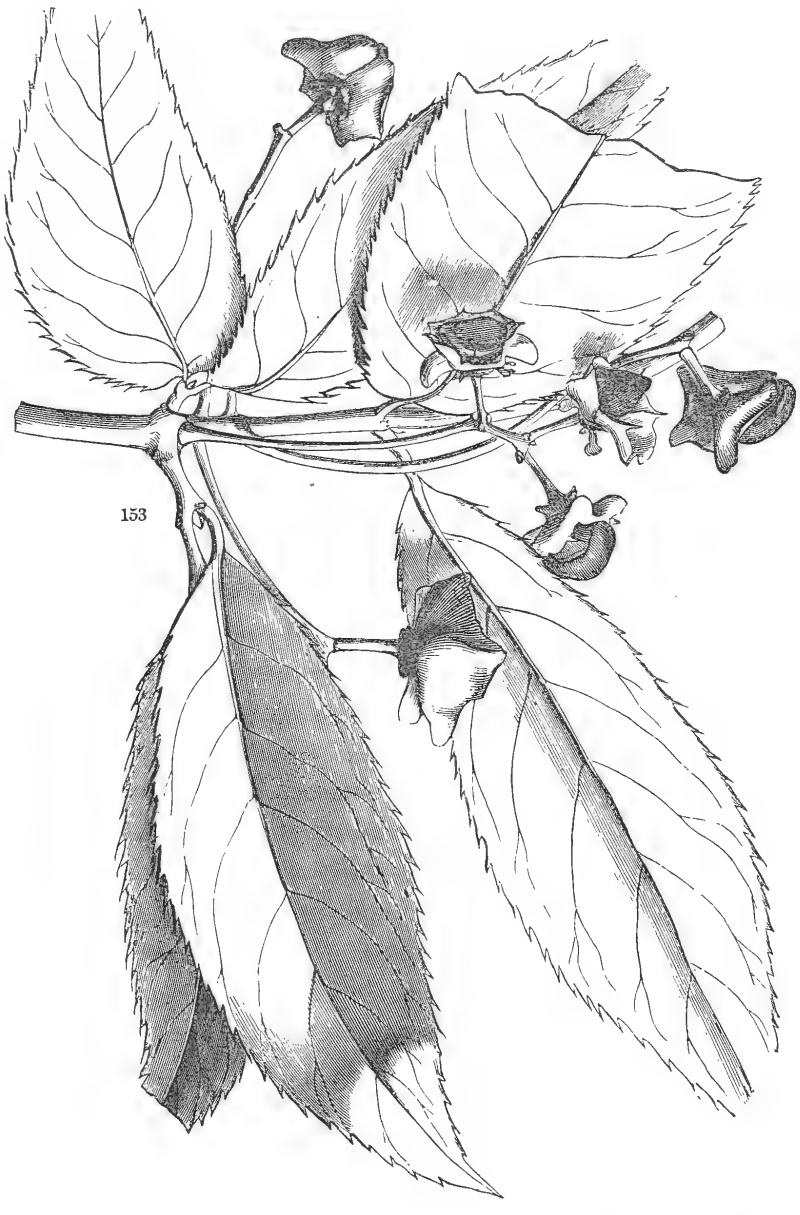
152

How this differs from *A. oxycedrus* will be obvious upon comparing the present cut with that at page 57 of our last number. It is found in the same country, abounding all over the island, where it assumes many forms; sometimes having broad leaves, and a stout almost erect habit, sometimes having almost awl-shaped leaves, and not possessing stiffness enough to support itself. It bears long, narrow, blunt, curved pods. *A. Riceana*, figured at page 56, approaches it more nearly than anything else; but that has a much more graceful habit, and its paler flowers are so disposed that each may be seen separately upon the long drooping spikes, while here, on the contrary, even when old as in our figure, they always have a comparatively compact arrangement, and when young are collected into close oblong spikes.

EUONYMUS FIMBRIATUS. *Wallich.* A beautiful evergreen greenhouse bush, from the Himalaya. Flowers green. Belongs to the order of Spindle trees (*Celastraceæ*). (Fig. 153.)

Although sometimes fine flowers are more looked for than beautiful foliage, yet in the present case the very handsome appearance of the plant now figured ought to satisfy even the most fastidious. We can scarcely do better than transcribe Dr. Wallich's description of it:—"Specimens of this beautiful species were communicated from the Servalik mountains, by Dr. Govan; and from Shreenugur, by Kamroop. Probably a tree. *Branches* round, slender, gray; while young alternately compressed; all

parts smooth. *Buds* axillary and terminal, oval, acute, consisting of ovate, obtuse, imbricating scales. *Leaves* opposite, ovate, terminated by a lanceolar, long acumen, margins most elegantly marked with narrow, linear, lanceolate, sharp, slightly incumbent, parallel, and approximate serratures, which are two or three lines long, and sharply denticulate, or serrulate ; base rounded, or acute, nearly entire ; the lower surface with a strong rib and oblique nerves, from three to five inches long. *Petiole* half-an-inch long, and furrowed. *Peduncles* lateral, approximate on the young shoots, filiform, a little flattened, two or three inches long, divided into five or six long slender rays, each bearing a simple or compound fascicle of tetrandrous *flowers*. *Calycine* segments oblong, obtuse. *Stamina* very short. *Capsule* large, turbinate, depressed, furnished with from two to five lanceolate, tapering, vertical, horizontally spreading wings, which are sometimes two-thirds of an inch long, and as broad at the base as the capsule itself is deep.



153

"*Obs.*—It is impossible to confound this with any other species. While young the leaves are lanceolate, less deeply, but distinctly duplicato-serrate ; when old they become broad ovate, elegantly fringed with numerous narrow, deep, dentate serratures. The capsules are large and leathery."

In the winter the large leathery seed vessels open and display the rich orange-coloured seeds, which themselves produce a sufficiently gay appearance.

HELLEBORUS ATRO-RUBENS. *Waldstein and Kitaibel.* A hardy herbaceous plant, with dull purple flowers, appearing early in the spring. Native of Hungary. Belongs to the Crowfoots.

"A really handsome and hardy herbaceous flowering plant, blossoming when flowers are more especially welcome visitors, in February and March. The blossoms are large, spreading, at first rather a dark purple (hardly dark enough to justify the name *atro-rubens*), gradually changing to green as the fruit advances to maturity. It inhabits woods and bushy places in the mountain districts of Croatia, and is especially abundant about Korenicz. Root a branched tuber or cormus, throwing down very numerous long fibres. Stem erect, herbaceous, dichotomously branched, glabrous, obsoletely angular. Root-leaves coming to perfection after the flowers, pedate, shining, the lobes lanceolate, reticulated, finely serrated, shining, paler beneath. Stem-leaves with a sheathing base, almost sessile, less divided : uppermost ones or bracteas at length lanceolate, undivided. Peduncles mostly terminal and two-flowered. Sepals broad ovate, almost rotundate, spreading, dull but rather dark red-purple, persistent and changing to dull pale brownish-green. Petals

wedge-shaped, a short compressed tube, open at the mouth. Stamens numerous, yellow. Pistils five. Ovaries tapering into styles as long as the stamens. Stigma clavate, hairy."—*Botanical Magazine*, t. 4581.

SKIMMIA JAPONICA. *Thunberg* (*alias* Limonia Laureola, *Wallich*). A half-hardy fragrant evergreen shrub, belonging to Citronworts. Found in China and Japan, and on the Himalayan Mountains. Flowers pale green. (Fig. 154.)

We cannot see that the Himalayan and Chinese forms of this interesting shrub differ in any respect, for although Zuccarini says the flowers of the Chinese plant are white, edged with rose, yet the Chinese specimens furnished to us are green, exactly as represented in Dr. Wallich's *Plantæ Asiaticæ rariores*. We have therefore only to add to our assurance that it is a bush with deliciously fragrant blossoms the following extract from Zuccarini's *Plantæ Japonicæ*:—

"The *Skimmi* is an evergreen shrub, found throughout Japan among mountains, and shaded by forests, but the plants are nowhere numerous, and always scattered, which renders them somewhat rare. We found it near Nangasaki, on the mountain Kawara, 594 yards above the level of the sea. Kaempfer was wrong in calling it a large tree, for in a wild state it scarcely grows above three or four feet high, and its branches generally incline towards the earth. In a cultivated state it becomes taller, the branches crowded, and almost in whorls of three or four together, growing stiffly from the stem. The leaves last three or four years, and each year is known by the distance of the tufts. The wild plants are distinguished by sharper leaves, which are closely spotted with transparent glands, like those of the orange tree, or the Tutsan. The flowers appear, in terminal panicles, from the beginning of March to the end of April. They are white, and of a reddish colour at the edge of the under side of the petals. The perfume is very agreeable, not unlike that of *Daphne odora*, and is particularly strong in the evening. The round, bright red berries (white in a cultivated variety) resemble those of the hawthorn, and contain four cartilaginous stones. The fruit ripens in October, and does not fall till towards the end of December. The leaves have an aromatic and acrid flavour.

154

"The *Skimmi* is generally cultivated in Japan in gardens and around temples. Its evergreen bright leaves, its numerous and graceful bunches of flowers, displayed from the tops of the branches from the beginning of spring, its fragrance, and at the end of autumn its beautiful red berries, entitle it to a high rank among ornamental plants. It is increased by cuttings or layers. Although in our climate (Holland) it is difficult to preserve in the open air, it thrives perfectly in the greenhouse, where, along with Camellias, it enhances by its perfume the beauty of those scentless shrubs. However, the Japanese and the Chinese reckon it among venomous plants; and the name *Sikimi* signifies also mischievous fruit."

BAUHINIA CORYMBOSA. A handsome Chinese flowering plant, which blooms in the spring, differing in general appearance from most things. The flowers, rose-coloured, are individually about an inch in diameter, and are produced in loose corymbs on the extremities of the shoots. It is a desirable plant, deserving of general cultivation.

A woody climber, branching from the ground. Branches grooved; tendrils opposite, revolute. Leaves one and a half to two inches long, divided to the middle or usually deeper; lobes parallel, oblong, with the outer edge, base, and tip rounded, and the inner edge nearly straight, two to four nerved, bright pale green; petiole one-half to one inch. Corymbs terminal and on short subterminal branches, shortly peduncled, many-flowered; bracts small, filiform. Flowers rosy, one inch in diameter. Petals spreading, obovate-orbicular, margins crisped and crenulate. Stamens three, perfect as long as the petals; anthers and stout filaments bright red; imperfect filiform with twisted tips.—*Botanical Magazine*, 6621.

Nepenthes lanata. This is not a plant of very recent introduction, having been in commerce for a good many years, but nevertheless it is a species we can with confidence recommend to cultivators of this singular genus, as it is one of the most distinct kinds, differing much in its general appearance from all others in cultivation both in form and colour. In habit it is remarkably stout, the leaves in proportion to the pitchers are unusually broad, but comparatively short. The colour is pale olive-green suffused with red. It thrives with similar treatment as to heat, soil, and moisture, to that under which the other kinds from hot countries succeed, but in the important matter of shade it differs from all others that we have grown, as it will not do without it receives considerably thicker shade during the summer months; this is even better than hanging it further from the glass. The following description of this remarkable species is given by Dr. Masters in the *Gardener's Chronicle*, N.S., vol. xvii., p. 178 :—

Habit rather vigorous; leaves deep green, glabrous above, paler and thickly covered with blackish hairs beneath. The midrib is reddish and depressed on the upper surface, greenish and very prominent beneath. In form the leaves, which are more than one foot long by two inches in breadth, are oblong obtuse, gradually tapering at the base into a broad leaf-stalk. The tendril, like the pitcher, is thinly covered with coarse black hairs. The pitchers measure about six by one and a half inches, are cylindrical, not in the least ventricose, winged on the posterior side next to the axis of the plant, the wings toothed and fringed; the mouth of the pitcher is ovate acute, prolonged anteriorly into a triangular neck; the peristome is finely and evenly ribbed, the ribs being ultimately of a reddish-brown colour; the lid is oblong or suborbicular, glandular on the under surface, with seven or nine nerves, three or four on each side of the central nerve, which latter is prominent at the base, but becomes obscure towards the middle of the lid.

Telopea speciossima. This old but very scarce plant was flowered during the spring of 1882 in Sir George MacLeay's noted garden at Bletchingly, and was exhibited by his gardener, Mr. Green, at one of the Royal Horticultural Society's South Kensington Meetings. It is a Protead from New South Wales. Its blooming is a rare occurrence in this country, probably through its not being rightly treated. The flower-head forms almost a ball, some four inches across and as much in depth; the close mass of individual flowers is surrounded at the base by a number of bracts, which are lanceolate in form, turning upwards; the whole are red in colour. It is a most singular and showy flower.

Tacsonia Parritæ. The description that this plant—which is not yet distributed—receives is such as to lead us to expect something altogether out of the ordinary character that this most interesting and beautiful genus has yet afforded. Its colour alone, orange shaded with salmon, cannot fail to give it a distinct appearance. It seems to have been introduced by Messrs. Shuttleworth, Carder, and Co., from Tolima. Dr. Masters describes it as follows :—

Leaves glabrous above, three-lobed, pilose beneath, the stipules entire, subulate acuminate, the leaf-stalks channelled on the upper surface and provided with a variable number of sessile glands. Flower-stalks cylindrical, longer than the leaves. Flower-tube long, slender, and glabrous, distended and sulcate at the base; the five sepals are of a rosy-orange tint, oblong-hooded, and provided with a remarkably deep wing terminating in an acute point, the wing being much deeper than in any other Tacsonia of which we have any knowledge. The oblong-flat petals are considerably shorter than the sepals, and are of a rich orange colour.—*Gardener's Chronicle*, N.S., vol. xvii., p. 218.

Pitcairnia alta. This plant appears to have been introduced some years ago, but evidently has not been much known to cultivators, although its stately habit and brilliant-coloured flowers are sufficient to commend it to the notice of the gardening community. The general appearance is similar to others of the genus, the leaves assuming an erect position at first, and then gracefully arching so that their extremities hang down to a level with the point from whence they spring. The branching flower-stem, which springs from the crown of the plant, rises several feet above the foliage. The flowers are wholly red, when fully expanded forming with the arched foliage an effective and elegant combination. A native of the West Indies.

Acaulescent, densely tufted. Basal leaves from twelve to twenty to a flower stem, linear-lorate, two or three feet long, three-quarters of an inch broad, or an inch at the middle, bright green on the face, persistently white-lepidote on the under surface, recurving from about the middle. Peduncle two or three feet long below the inflorescence. Racemes several, very lax, arranged in a deltoid panicle; pedicels ascending, a quarter or half an inch long. Calyx bright red, above an inch long, adhering to the ovary at the cuneate base; sepals lanceolate. Petals twice as long as the sepals, the same colour. Stamens as long as the petals; anthers linear, basifixed, half an inch long. Style reaching up to the summit of the anthers; stigmas convolute.—*Botanical Magazine*, 6606.

Dendrobium Leechianum. Orchids are now being raised by hybridising in this country in such numbers as almost to keep pace with the new species that are discovered by collectors. Yet the raisers, so far, seem to be working with comparatively limited genera. For instance, Cattleyas crossed with each other, or with the nearly allied Lælias; the different species of Cypripedium have also rewarded the hybridisers with a number of handsome varieties. The plant under notice has been raised by Mr. Swan, gardener to W. Leech, Esq., Fallowfield, near Manchester, who possesses one of the noted collections of Orchids for which the neighbourhood of Manchester is so justly celebrated. It is a handsome variety, which will no doubt succeed with treatment in the matters of heat and moisture that answer for others that come under the intermediate temperature section, that is, not so very hot even in the growing season, and considerably cooler whilst at rest than such species as need the greatest amount of heat. A cross between *D. aureum* and *D. nobile*, and is in the way of *D. splendidissimum*. Professer Reichenbach thus describes it in the *Gardener's Chronicle*, N.S., vol. xvii., p. 256:—

Petals narrower and more acute than in *D. splendidissimum*, very wavy. Lip lobed, reminding one of *D. aureum*. Colour white as in the best varieties of *D. nobile*; tips of the sepals, petals, and lip, rich rose-purple. Sepals and petals nearly all rose-colour outside. The anterior disk of the lip is occupied by a very large dark purple blotch. Towards the base runs a broad callous line with fine purple stripes; on each side there are radiating purple lines outside.

Mascarenhasia Curnowiana. A handsome and useful addition to our warm stove plants, introduced from Madagascar by Messrs. Low, of the Clapton Nursery, through their collector, Mr. Curnow. It is said to be a free flowerer, and to keep blooming for a considerable length of time—properties which cannot fail to make it a favourite. Its habit is shrubby; the flowers, red or scarlet, are about two inches in diameter. No doubt it will succeed with similar treatment in the matter of heat and moisture to that which other plants from the same hot region require.

A slender shrub, with very dark green leaves and branches. Leaves opposite, three to four inches long. Shortly petioled, oblong or oblong-lanceolate. Cymes terminal, few-flowered; peduncle rather longer than the petiole, pedicels shorter. Calyx very small. Corolla perfectly glabrous, scarlet; tube two-thirds of an inch long; lobes nearly an inch long, ovate-lanceolate, acuminate, base subcordate, margins slightly undulate, disk surrounding the mouth stellate, hairy. Stamens subulate, with short pubescent anthers. Hypogynous disk obsolete. Ovary glabrous; style slender, stigma constricted in the middle, obtuse.—*Botanical Magazine*, 6612.

THE VARIEGATED ONCID.
(ONCIDIUM VARIEGATUM.)

[Plate 51.]

THE VARIEGATED ONCID.

(ONCIDIUM VARIEGATUM.)

A Stove Epiphyte, from the West Indies, *belonging to the Natural Order of* Orchids.

Specific Character.

THE VARIEGATED ONCID.—Leaves acuminate, fleshy, equitant, serrulate. Flowers panicled; lower sepals united into one spoon-shaped body. Petals obovate, emarginate, unguiculate, cuspidate. Lip with small acute lateral lobes, a broad two-lobed middle lobe with a denticulate unguis, and a double fleshy crest, the upper half consisting of two lobes, the lower of three. Wings of column hatchet-shaped, acuminate, entire.

Oncidium variegatum: *Swartz act. holm.* 1800; p. 240. *Lindl. gen. et. sp. Orch.*, p. 198.

THIS charming little plant was first introduced from the Havannah, by Sir Charles Lemon, Bart.; later on it was put into circulation by Linden, who gave a plant to the Horticultural Society, in whose garden the materials for the accompanying figure, aided by native specimens, were obtained. It is a small species, growing ill on wood, and hitherto, in cultivation, not more than a quarter of the natural size.

When in health the leaves are fleshy, three or four inches long, equitant, sharp-pointed, and very much broken at the edge. The panicle is a foot and a half high, erect, and decorated with flat, pink flowers, richly stained with cinnamon-red on the sepals, and at the base of the sepals and lip. The lower sepals form a blunt spoon-shaped body; the petals are large, obovate, almost retuse, with an intermediate point; the lip has the middle lobe distinctly placed upon a somewhat serrated unguis; the crest consists of two sets of tubercles, one lying on the other, the upper set made up of two large lateral ones, and a minute one in the middle, the lower set, of three equal blunt ones, the intermediate of which is curved upwards.

This Variegated Oncid is very like the Tetrapetalous Oncid, from which it differs in

having the leaves broken up at the edge, petals coloured, broad and cuspidate, not herbaceous, blunt and serrulate, in the double sepal being blunt and spoon-shaped, not divided into two taper-pointed divisions, and in its richer colours.

But this does not apply to the Cuba specimens referred to the Variegated Oncid in the *Orchidaceæ Lindenianæ*, which certainly belong, at least in part, to a distinct species. It is the more necessary to mention this, because it is possible that Mr. Linden may have circulated plants of them under the name erroneously applied to it in the work above quoted, by the writer of the present article, who looked upon them as mere varieties of the Variegated Oncid. In general appearance they wholly correspond with it, and also in the ragged edge of the foliage; but they differ in the flowers being downy, the wings of the column blunt, the middle lobe of the lip perfectly sessile, and the lateral lobes joining it by a broad base. The crest, too, consists of five tubercles, of which the uppermost are much the longest. The plant is stated by Mr. Linden to vary with white or rose-coloured flowers, as well as in stature—a large form growing in the pine forests of Yatara, in Cuba; the smaller on coffee trees in the Sierra Maestre, and on the Liban mountain. But it is probable that this applies to both the species in question.

In order to enable those who may possess the second species to identify it, if indeed it does occur in living collections, we subjoin the following:—

Specific Character.

THE VELVETY ONCID.—Leaves acute, fleshy, equitant, serrulate. Flowers velvety, panicled. Back sepal obcordate, lower united into one spoon-shaped body. Petals nearly orbicular, a little narrowed to the base. Lip with rounded lateral divisions much smaller than the petals, abruptly passing into the broad two-lobed middle division, without the intervention of any unguis; crest consisting of two long posterior cylindrical lobes, and three smaller short ones in front. Wings of column hatchet-shaped, blunt, entire.

In some respects this approaches *O. pulchellum*, which, however, is readily distinguished by the petals being much smaller than the lateral lobes of the lip.

THE ASOCA.
(JONESIA ASOCA.)

[PLATE 52.]

THE ASOCA.

(JONESIA ASOCA.)

A Stove Tree, Native of the EAST INDIES, *belonging to* LEGUMINOUS PLANTS.

Specific Character.

THE ASOCA.—A tree. Leaves in three to five pairs, with smooth lanceolate wavy acuminate leaflets rather acute at the base. Flowers in terminal fasciculate corymbs, hexandrous.

Jonesia Asoca, *Roxburgh in Asiatic Rxsearches*, vol. iv., p. 355.

THIS beautiful tree, with glowing fragrant flowers, blossomed at Chatsworth in the aquatic house, whence our specimen was obtained. It is a native of various parts of the East Indies, where it is also much cultivated in gardens. Roxburgh says it is—

"Found in gardens about Calcutta, where it grows to be a very handsome, middling-sized, ramous tree. Flowering time, the beginning of the hot season; seeds ripen during the rains. The plants and seeds were, I am informed, originally brought from the interior parts of the country, where it is indigenous."

Sir W. Jones himself, after whom the genus was named, states that—

"The number of stamens varies considerably in the same plant; they are from six to seven, to eight or nine, but the regular number seems eight—one in the interstices of the corol (calyx), and one before the centre of each division. Most of the flowers, indeed, have one abortive stamen, and some only mark its place, but many are perfect, and Van Rheede speaks of eight as the constant number; in fact, no part of the plant is constant. Flowers fascicled, fragrant just after sunset and before sunrise, when they are fresh with evening and morning dew; beautifully diversified with tints of

orange-scarlet, of pale yellow, and of bright orange, which grows deeper every day, and forms a variety of shades, according to the age of each blossom that opens in the fascicle. The vegetable world scarce exhibits a richer sight than an Asoca tree in full bloom; it is about as high as an ordinary Cherry-tree. A Brahmin informs me, that one species of the Asoca is a creeper, and Jayadéva gives it the epithet 'voluble;' the Sanscrit name will, I hope, be retained by botanists, as it perpetually occurs in the old Indian poems, and in treatises on religious rites."

Mr. Harrington writes of it thus:—

"Asoca: This is the true name of a charming tree, inaccurately named Asjogam in the Hort. Malab., vol. 5, tab. 59. It is a plant of the eighth class and first order, bearing flowers of exquisite beauty; and its fruit, which Van Rheede had not seen, is a legume, compressed, incurved, long, pointed, with six, seven, or eight seeds; it will be described very fully in a paper intended for the Society. The Brahmins, who adore beautiful objects, have consecrated the lovely Asoca: they plant it near the temples of Siva, and frequently mention a grove of it, in which Rávan confined the unfortunate Síta. The eighth day from the new moon of Chaitra, inclusive, is called Asocashtami."

We suspect that more species than one are mixed under the common name of Asoca. The late Mr. Griffith found in Burmah, cultivated, a tree with very dense corymbs of flowers, and leaves in 3-pairs, the lowest of which is distinctly heart-shaped. This is scarcely the Asoca of Bengal, but is much nearer the Java plant, called by Zollinger, *Jonesia minor*, without being the same. Then again the plant now figured is surely not what Sir W. Hooker has given in the Botanical Magazine, t. 3018, with small whole-coloured flowers, having a reflexed limb, and leaves in 5-pairs; nor do either sufficiently correspond with Roxburgh's figure in the Asiatic Researches. In short, the question requires that elucidation at the hands of an Indian botanist, which a European cannot undertake.

Those who assert that the wholesome law of priority in deciding the validity of botanical names is immutable, will do well to consult the history of this plant, first called by Linnæus *Saraca indica*, then by Burmann *Saraca arborescens*, and twenty-seven years later, *Jonesia Asoca*, by Roxburgh, whose name is, nevertheless, universally adopted.

GLEANINGS AND ORIGINAL MEMORANDA.

GYMNOGRAMMA LAUCHEANA GRANDICEPS. Ferns are naturally so constructed that when brought under conditions of high cultivation they cannot show the effect it has on them in the way that many other plants do—that is, by a duplication and change in form of the internal parts of the flowers, usually termed doubling, and which is seen in the many plants that, after a more or less lengthened time of production from seed, produce double varieties. The minute character of the reproductive organs in Ferns are such as to render them unable to act as the depositories of this superabundance of vigour. Hence we see them appearing with a duplication in the leaves, or, as expressed in gardening phraseology, the fronds become crested. In the plant above named we have a golden Gymnogramma assuming this form, the terminal segments of the fronds being very much crested; it is thickly coated with the yellow powder common to the family, and is very pretty and interesting.

CORYANTHES MACRANTHA. In these times, when a limited number of plants become so far fashionable as to all but exclude from cultivation many others that are alike beautiful in appearance, as well as remarkable for their singularity of construction, it is pleasing to see this little-known Orchid, which, for the wonderful formation of its flowers, and their effective colouring, stands unsurpassed amongst this proverbially singular division of the vegetable family. The flower-scapes, as in the Stanhopeas, are pendulous; the colour of the flower is a combination of yellow, purple, and pale crimson; when fully open the sepals measure from five to six inches across, the whole flower presenting an appearance like nothing but itself. It comes from the Caraccas, consequently requires a moderate heat to grow it.

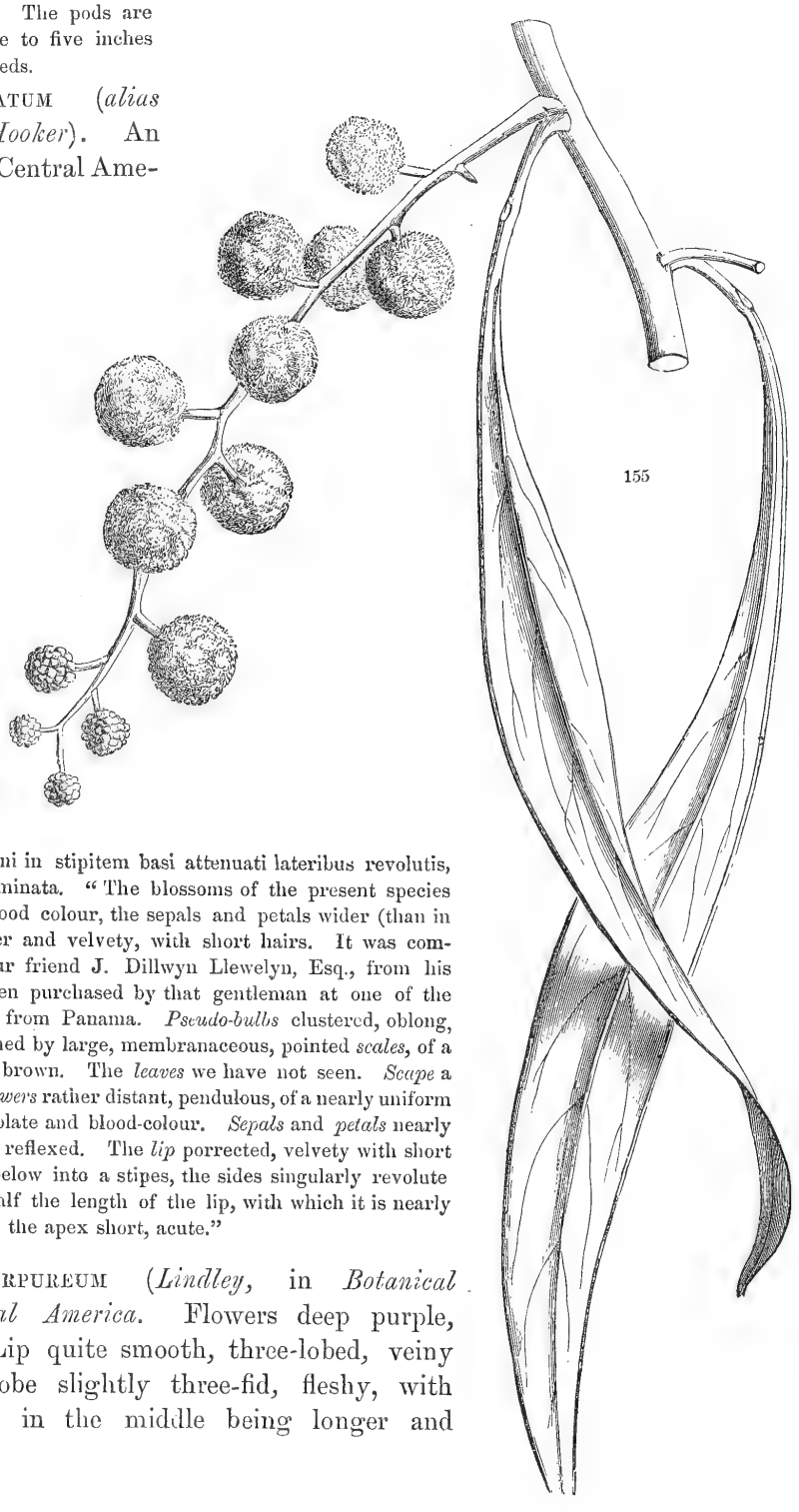
CATALPA KÆMPFERI. Flowering trees of merit, sufficiently hardy to stand our climate, only make their appearance at long intervals. Those who are acquainted with the beautiful *Catalpa syringæfolia* will appreciate the plant under notice, which bears a near resemblance to the American species, particularly in the form of the flower. It will no doubt succeed over the southern portion of the kingdom, but whether or not it will flower in the northern counties is uncertain. At all events it is worth trying, especially as Japanese plants generally are extremely free bloomers. Introduced from Japan.

A middle-sized tree, twenty-five to thirty feet high, with spreading rather brittle branches and copious foliage. Leaves about six inches long and broad, of a bright pale-green colour; petiole two to five inches, round; nerve-axils pubescent. Panicle terminal, erect. Flowers two or three together at the ends of the branchlets of the panicle, horizontal or drooping, pale yellow sprinkled with minute red spots within. Calyx very small, lips rounded. Corolla campanulate, three-quarters of an inch long, mouth oblique, upper lip short, recurved, lower spreading. Capsule a foot long and one-third of an inch in diameter, cylindric, straight, smooth, brown. Seeds compressed, velvety, produced at each end into fine silky hairs.—*Botanical Magazine*, 6611.

ACACIA CYANOPHYLLA. *Lindley.* A noble Swan River tree, with long glaucous leaves, and spikes of bright yellow flower-heads. Blossoms in February and March. (Fig. 155.)

According to Preiss, this plant inhabits wet sandy flats near Swan River, where it is called Black Wattle, and forms a small straggling tree from 12 to 18 feet high. He adds that the leaves of the wild plant are much smaller and

narrower than in the cultivated. In this country it is one of the finest decorations of the conservatory where room can be afforded. Its drooping branches are loaded with long glaucous, almost blue, leaves,—themselves handsome objects; and in the first months of the year, it pours forth in profusion its long spikes of deep yellow round flower-heads. Some of the leaves are above a foot long. The pods are said to be very narrow, from three to five inches long, and contracted between the seeds.



MORMODES BARBATUM (*alias* Mormodes atro-purpurea, *Hooker*). An Orchidaceous epiphyte, from Central America. Flowers dark purple. Introduced by Warczewitz. Blossomed by J. D. Llewelyn, Esq.

This plant, published in the *Botanical Magazine*, t. 4577, under the name of *Mormodes atro-purpurea*, is quite different from the plant so called in the *Botanical Register*, t. 1861. It differs not only in the longer and looser spike, but in the form of the lip, which is not at all 3-lobed, or rather 5-lobed, but quite entire, and moreover covered with long hairs instead of being smooth. Sir Wm. Hooker gives the following definition and account of it:—

M. pseudo-bulbis oblongis squamis amplis imbricatis pallidis fusco-marginatis vaginatis, foliis . . . , floribus pendulis unicoloribus, sepalis petalisque arcte reflexis ovato-lanceolatis marginibus revolutis, labelli late obcordati velutini in stipitem basi attenuati lateribus revolutis, columna oblique torta breviter acuminata. "The blossoms of the present species are of a uniform dark purple or blood colour, the sepals and petals wider (than in *M. lentiginosa*), the lip much broader and velvety, with short hairs. It was communicated in January, 1851, by our friend J. Dillwyn Llewelyn, Esq., from his collection at Penllergare, having been purchased by that gentleman at one of the sales of plants of Mr. Warczewitz, from Panama. *Pseudo-bulbs* clustered, oblong, striated, the old ones entirely sheathed by large, membranaceous, pointed *scales*, of a pale straw-colour, edged with dark brown. The *leaves* we have not seen. *Scape* a foot high, rounded, articulated. *Flowers* rather distant, pendulous, of a nearly uniform dark purple-brown, or between chocolate and blood-colour. *Sepals* and *petals* nearly uniform, ovato-lanceolate, their sides reflexed. The *lip* porrected, velvety with short hairs, broadly obcordate, tapering below into a stipes, the sides singularly revolute *Column* pale, purplish-brown, not half the length of the lip, with which it is nearly parallel, but it has an oblique twist; the apex short, acute."

MORMODES ATROPURPUREUM (*Lindley*, in *Botanical Register*, t. 1861). *Central America.* Flowers deep purple, on a close erect raceme. Lip quite smooth, three-lobed, veiny at the edge, the middle lobe slightly three-fid, fleshy, with the divisions rounded, that in the middle being longer and cuspidate.

Mormodes aromaticum (*Lindley*, in *Bot. Reg.* 1841, *misc.* 162, 1843, t. 56). *Mexico.* This has flowers with a pale pinkish ground sown thickly with dull wine-red specks, and a powerful odour like that of aromatic vinegar. It differs from *M. pardinum* in the small size of its flowers, and the very dissimilar form of the lip and floral envelopes.

Mormodes pardinum (*Bateman, Orch. Mexic.*, t. 14; *Hooker, Bot. Mag.*, t. 3,900; alias *Cyclosia maculata*, Klotzsch, in *Gartenzeit.*, No. 39, 1838. Var. *Unicolor*, Hooker, l.c. t. 3,879; *Catasetum citrinum*, Hort.). *Mexico.* A beautiful species, with bright yellow flowers, spotted with rich brown in one variety, whole coloured with no spots whatever in the other.

Mormodes luxatum (*Lindley*, in *Bot. Reg.* 1842, *misc.* 66, 1843, t. 33). *Mexico.* Flowers large, as much as three and a half inches in diameter, pale lemon-colour, powerfully aromatic, with somewhat the appearance of an Anguloa. The manner in which the customary arrangement of the parts of fructification is disturbed is very curious.

Arum palæstrinum. *Boiss.* After being introduced some years ago, and all but, if not quite, lost sight of, this very distinct plant seems to have again made its appearance, this time with Messrs. Heath, of Cheltenham. Black flowers are held in estimation by some, and beyond the singularity in that respect possessed by the spathes of this Aroid, it would associate well with flowers of lighter colour.

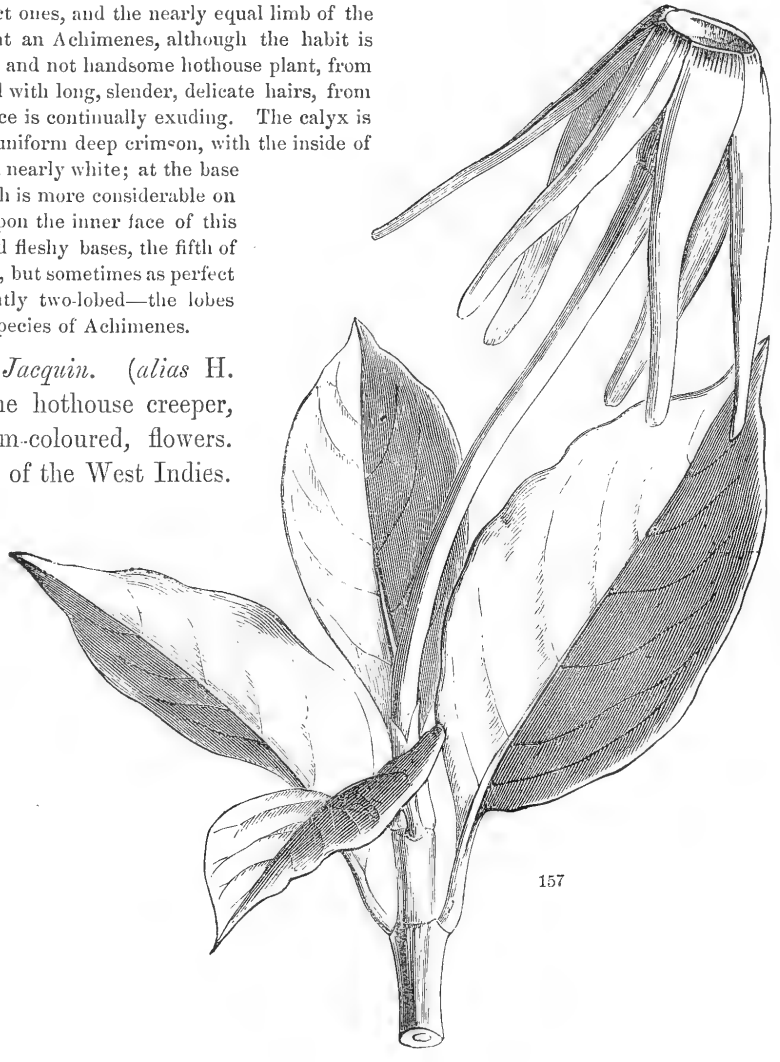
Leaves four or five to a plant, petioles twelve to eighteen inches long, stout; lamina triangular-hastate, acute, a little constricted just above the basal lobes, which are half as long as the front lobe, ovate-elliptic in outline and very obtuse; the lamina varies in size from six to fourteen inches in length, and from three and a half to seven and a half inches in breadth, dark glossy green above, paler beneath. Peduncle longer than the petioles, sometimes rising eight or nine inches above the leaves, pale green, terete, half an inch thick. Spathe seven to eleven inches long, tube obliquely campanulate, limb lanceolate, gradually attenuated to the acuminate apex, at first bent back and spirally twisted, afterwards opening out nearly flat; outside of spathe pale green on the tube, with some suffused purplish spots or blotches, dark dirty green on the limb; inside of spathe of a rich velvety black, except at the base of the tube, which is yellowish-white. Spadix considerably shorter than the spathe; ova-

ries light green, dark purple on and around the stigma; anthers very dark purple-brown; neuter organs black, subulate from a bulbous base, not rugulose, the lower series in from two to five cycles, the upper series in one or two cycles; appendix jet-black, fusiform subacute, with no distinct stipes, half an inch thick at the middle. Odour none. A native of Syria.—*Gardener's Chronicle*, N.S., vol. xvii., p. 429.

ACHIMENES VISCIDA (*alias* Cheirisanthera atrosanguinea *of the Gardens*). A hothouse herbaceous plant, with viscid woolly leaves, and red and white flowers. Flowers nearly all the year round. (Fig. 156.)

A. viscida; undique pilis viscidis tomentosa, foliis ovatis oblongisque crenatis, cymis pedunculatis axillaribus pauci floris, corollâ basi supernè gibbosâ tubo rectiusculo limbo 5-lobo laciniis rotundatis subæqualibus, ovario hirsuto.

In what work the name which this plant bears in the gardens has been proposed we have failed to discover. It was imported from the continent, and is believed to be one of Linden's plants, but can hardly be the *Achimenes atrosanguinea* of Morren. A half inferior ovary, a complete narrow annulus, a fifth abortive stamen in addition to the four perfect ones, and the nearly equal limb of the corolla, seem to pronounce the plant an Achimenes, although the habit is more that of an Isolome. It is a soft and not handsome hothouse plant, from two to three feet high, closely covered with long, slender, delicate hairs, from whose points a green viscid substance is continually exuding. The calyx is regularly five-lobed; the corolla of a uniform deep crimson, with the inside of the tube, and the orifice of the throat, nearly white; at the base of the tube is a circular swelling which is more considerable on the upper than the under side, and upon the inner face of this swelling stand five stamens with broad fleshy bases, the fifth of which is generally straight and sterile, but sometimes as perfect as the others. The stigma is slightly two-lobed—the lobes expanding right and left as in other species of Achimenes.



157

HILLIA PARASITICA. *Jacquin.* (*alias* H. longiflora *Swartz.*) A handsome hothouse creeper, with long trumpet-shaped, cream-coloured, flowers. Belongs to Cinchonads. Native of the West Indies. (Fig. 157.)

Jacquin, who first discovered this plant overrunning trees and old walls in the dense damp woods of Mount Calebasse, in Martinique, called it a Parasite. It however deserves that name no more than ivy, to which it may be compared as to its habit; striking roots into soil, or clinging to rotten bark when it comes in contact with it, or rising feebly from the ground if there is nothing to cling to. It is very rarely seen in gardens; and yet it is one of the easiest of plants to cultivate, requiring the same treatment as would suit the now common *Stephanote.* Its leaves are firm, rather fleshy, deep green, and handsome. The flowers are four inches long, with a slender tube, and six reflexed divisions; towards the mouth the tube of the corolla becomes inflated like the mouth of a trumpet; they are a delicate cream-colour when first opened, but soon acquire the peculiar yellow tint observed in *Gardenia Fortuni*, and other species of that genus. According to De Candolle, this is found not only in Martinique, but in Guadaloupe, Jamaica, Cuba, and the hot parts of Mexico.

1 THE SPOTTED PLEIONE.
(PLEIONE MACULATA.)

11 THE BOTTLE PLEIONE.
(PLEIONE LAGENARIA.)

[PLATE 53.]

I. THE SPOTTED PLEIONE.

(PLEIONE MACULATA.)

II. THE BOTTLE PLEIONE.

(PLEIONE LAGENARIA.)

Terrestrial Alpine Herbaceous Plants, from NORTHERN INDIA, *belonging to the Natural Order of* ORCHIDS.

Specific Characters.

I. *THE SPOTTED* PLEIONE.—Pseudobulbs whole-coloured, short, thick, rounded, narrowed at the base. Bract short, inflated, roundish, hooded. Sepals and petals oval, acute. Lip rounded, entire, emarginate, with seven crested lines.

Gomphostylis candida: *Wallich ic. ined.* Cœlogyne maculata: *Lindl. in Wallich, Plant. As. rariores,* i., 45, *t.* 53.

II. *THE BOTTLE* PLEIONE.—Pseudobulbs flask-shaped, clouded. Bract hooded, acute, very much tapering to the base. Sepals and petals linear-lanceolate, acuminate. Lip rounded, entire, emarginate, with five crested lines.

THESE beautiful plants are from the Alps of India. The first was found by Dr. Wallich's collectors on rocks and the trunks of trees, among moss, on the Khasija Mountains. Mr. Thomas Lobb found both in such places, and sent them to Messrs. Veitch, to whom we are indebted for specimens. The Khasija name, according to Dr. Wallich, is *Atia-Chakarpate.*

The Spotted Pleione has long been known to botanists as a species belonging to that Alpine group of so-called Cœlogynes, of which *C. Wallichiana* is the best known example, and to which the *Epidendrum præcox* and *humile* of Smith are also assigned. They certainly resemble greatly the genus Cœlogyne, to which one of us, many years since, reduced them, but they differ in certain points, to which we shall advert when we proceed to figure *Pleione humilis,* another charming species, of which Messrs. Veitch have also obtained possession.

The Bottle Pleione was received at the same time, mixed with the last. It is, however, obviously distinct, not only in colour, but in the form of the bracts and lobes of the flower, and in the number of crested lines upon the lip. It was distributed among Dr. Wallich's dried plants, No. 1763, under the name of *Cœlogyne humilis*.

Those who have seen the wondrous beauty of the Wallich Pleione at Chatsworth, will easily understand what these may become under similar treatment. The method followed in cultivating such mountaineers in Bengal is thus stated by Dr. Wallich:—

"They were introduced into the Hon. East India Company's Garden at Calcutta, in 1816, and I have often had the satisfaction of seeing them in flower there. Our mode of treating these and similar *Epiphytes* is to place them on beds made of brickwork, raised four or five feet from the ground, containing a rich mould, mixed with a large proportion of pebbles, and resting on a stratum of large stones or masses of vitrified bricks, so as to admit of being perfectly drained. The surface is covered with a quantity of moss, and the whole structure is placed in a shady and sheltered situation, corresponding to the natural place of the growth of such plants. By the aid of these beds, and by a constant attention to the necessity of keeping the roots as well as the plants themselves moderately moist, I have succeeded in cases even where there was but little hope; for instance, with plants from the higher regions of Nepal, and even from Gossain Than, in the Himalaya."

All the species are Alpine. Dr. Royle describes the *P. præcox* as being found ornamenting with its large, richly-coloured flowers the branches of Oaks on Loudour, at 7500 feet of elevation, in 30° N. Lat., but only during the moisture of the rainy season. The secret of their successful cultivation in England lies in keeping them cool and dry while at rest, and forcing them with heat, moisture, and bright light as long as they are inclined to grow. What plants are they for exhibition tables!

THE ANDERSON VERONICA.
(VERONICA ANDERSONII.)

[Plate 54.]

THE ANDERSON VERONICA.

(VERONICA ANDERSONII.)

A Garden Hybrid.

♂ VERONICA SPECIOSA. ♀ VERONICA SALICIFOLIA.

EVERY one is now familiar with the graceful half-hardy Willow-leaved Veronica of New Zealand (*V. salicifolia*), which is so commonly known in gardens under the alias of *V. Lindleyi*. It is a shrub with narrow willow-like leaves, and graceful spikes of white flowers.

Equally common has become that far more imposing, though less graceful species, the Showy Veronica or Napuka (*V. speciosa*), from the same country, conspicuous for its broad blunt solid leaves imitating those of the laurel, and its stiff erect massive tufts of deep violet flowers.

Both are nearly hardy—in Devonshire and Cornwall quite so; but in most of the English and all the Scotch counties they can only be made to thrive as greenhouse plants, amongst which they are the gayest in their season, which is autumn.

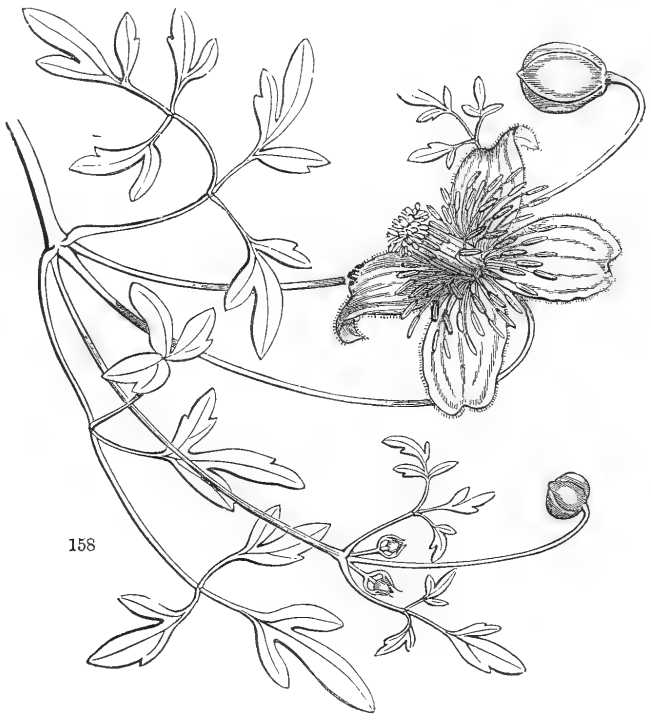
It occurred to a very intelligent gentleman named Anderson, residing at Maryfield, near Edinburgh, who has long occupied himself with questions of hybridisation, that the two plants would probably cross. He therefore powdered the stigma of the willow-leaved Veronica with the pollen of the Napuka, from which sprang a most extraordinary race, now called *V. Andersonii*. The leaves of the mule are broader than those of the Willow-leaved, narrower and thinner than those of Napuka; the manner of growth and form of the tufts of flowers is exactly intermediate, and stranger still each tuft is particoloured, white at the bottom like the Willow-leaved, rich violet at the top like the Napuka! In short, the newly constituted plant is one of the most beautiful of all those which the art of man has yet, with all reverence be it said, succeeded in producing. It flowers copiously in September and October.

As to their treatment, there is no better way of getting good bushy plants for autumn and winter flowering than to strike the cuttings in the autumn, keeping them in small pots through the winter, and in spring to plant them out in the open ground, leaving them there until September. Then take them up and pot them, giving a plentiful supply of water; their natural disposition to form roots freely enables them to get fully established. They flower for a considerable time in an ordinary greenhouse temperature.

GLEANINGS AND ORIGINAL MEMORANDA.

CLEMATIS GRAVEOLENS. *Lindley.* A hardy climber from the north of India. Leaves pale green, deciduous. Flowers greenish yellow, heavy-scented. Flowers in the middle of summer. (Fig. 158.)

This pretty little plant was raised in the garden of the Horticultural Society, from seeds collected by Captain William Munro, in Chinese Tartary, and the Snowy Passes, at an elevation of 12,000 feet. In cultivation it proves to be a small slender climbing species, perfectly destitute of hairiness, except on the calyx and fruit. The leaves have very small ovate, three-lobed, leaflets, and long straggling footstalks. The flowers are solitary, at or near the extremity of the branches, pale yellow, rather pretty, but emitting a heavy smell, which, in a greenhouse, is more disagreeable than pleasant, but is not observed in the open air. It proves to be perfectly hardy in the severest winters; grows freely in any good loamy soil, and is easily increased by cuttings. The seed was sown in the garden of the Horticultural Society on the 17th of May, 1845; and the plant was in flower by the end of July, 1846. See *Journ. of Hort. Soc.*, vol. i., p. 307.



158

BIFRENARIA HADWENII. (*alias* Scuticaria Hadwenii *Hort.*) An Orchidaceous epiphyte, with pale buff flowers, mottled with brown on the sepals, and rose colour on the lip. Native of Brazil. Flowers in May. Introduced by Thomas Brocklehurst, Esq.

B. Hadwenii; floribus solitariis, sepalis petalisque undulatis acuminatis, labello cucullato emarginato subrepando intus pubescente cristâ 3-dentatâ.

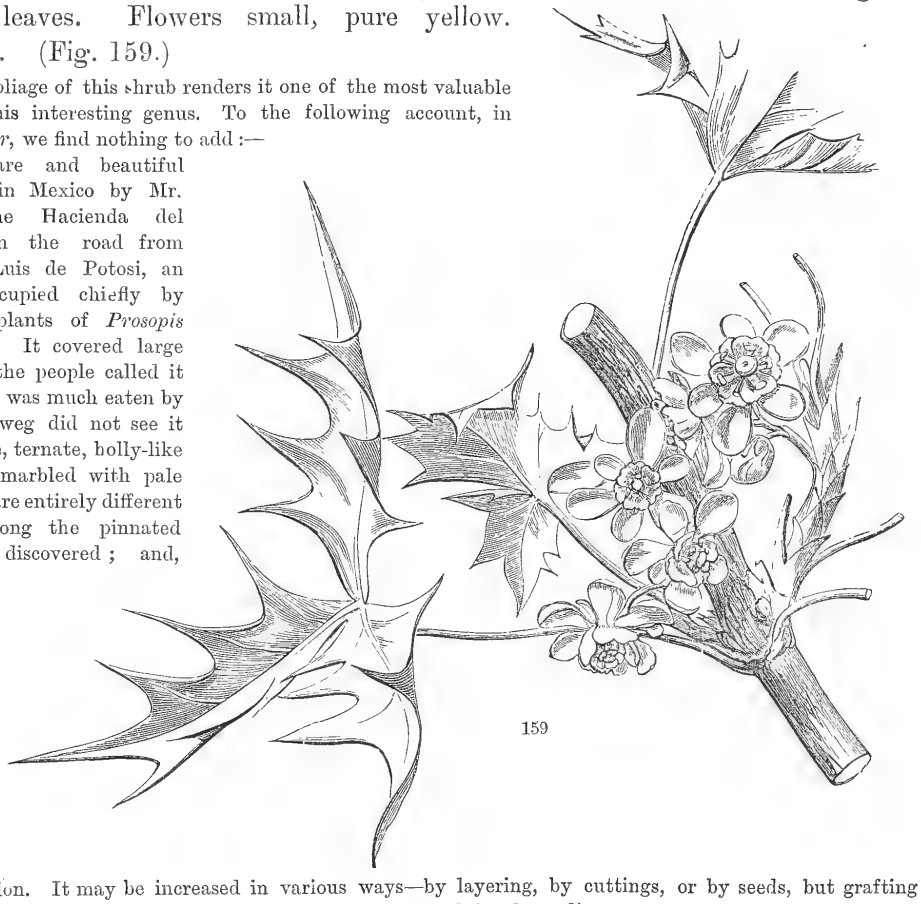
This plant bears in some gardens in the north of England the name of *Scuticaria Hadwenii.* According to Mr. Wm. Pass, of Macclesfield, from whom the specimen came, "Mr. Hadwen was the first to receive the plant from Mr. de Becca, of Rio de Janeiro, who has since sent it to Mr. Brocklehurst. The habit of the plant is very distinct from *Scuticaria Steelii,* having leaves or stems not more than twelve to fourteen inches long, which gives it the appearance of a Brassavola. From what I learn, the flowers are solitary and on long stems like

the one sent." The species differs in little from Bifrenaria, and is probably allied to *B. inodora*. The flowers when expanded are about three inches in diameter. The sepals are convex, those at the side being only slightly extended into a chin. The petals have a similar form, are rather inclined to turn back at the edges, and converge over the column, which is quite smooth, except just at the base in front. They are a dull nankeen colour with broken brown bars. The lip is much paler, with broken rose-coloured streaks, rounded at the point and turned inwards at the base, so as to resemble a slipper. When flattened out it has a slightly repand rhomboidal outline; on its upper side it is hairy, and bears in the centre a conspicuous three-toothed fleshy appendage. The pollen masses are in two pairs, each placed upon a short strap, which connects it with a very narrow crescent-shaped gland. It is no doubt the form of this gland which has led to the opinion that the plant is a Scuticaria, the two straps, which shrink up after a few days, having been overlooked.

BERBERIS TRIFOLIATA. *Hartweg.* A beautiful evergreen shrub, with variegated glaucous spiny leaves. Flowers small, pure yellow. Native of Mexico. (Fig. 159.)

The charming foliage of this shrub renders it one of the most valuable of the species of this interesting genus. To the following account, in the *Botanical Register*, we find nothing to add:—

"This very rare and beautiful species was found in Mexico by Mr. Hartweg, near the Hacienda del Espiritu Santo, on the road from Zacatecas to San Luis de Potosi, an immense plain, occupied chiefly by Opuntias, stunted plants of *Prosopis dulcis*, and Yuccas. It covered large tracts of country; the people called it *Acrito*, and the fruit was much eaten by children. Mr. Hartweg did not see it in flower. Its sessile, ternate, holly-like leaflets, beautifully marbled with pale blue and dull green, are entirely different from anything among the pinnated *Berberries* hitherto discovered; and, it may be added, are very much more handsome. In the garden of the Horticultural Society, where the annexed figure was made, it forms a dwarf spreading evergreen shrub, growing freely in a rich sandy loam, and rather dry situation. It may be increased in various ways—by layering, by cuttings, or by seeds, but grafting is the most certain and safest way; the grafting may be performed in the ordinary way, in March or April, and the best stock for working it upon is *Berberis aquifolium*. When grafted it should be placed in a cold pit or frame, kept close and rather damp. It flowers freely in April and May."



159

ZAMIA OBLIQUA. *A. Braun.* Cycads were at one time looked upon as only fit furniture for Botanical Gardens, where, generally, the necessity for stowing the greatest possible number of plants into the inadequate room at command precluded the possibility of their being grown in a way to exhibit their true character. But now their merits are beginning to be better understood and appreciated, for the decoration of greenhouses and conservatories

in private gardens, for which purpose their stately habit and singularity of form eminently befit them. Their slow growth is also an advantage, as, unlike Tree Ferns, they are not so troublesome in soon attaining size beyond the limits that can be allowed them. The plant under notice possesses a very distinct habit, being of much sparer growth than the generality of the members of the genus to which it belongs, having a slender stem more like a Palm, such for instance as possessed by a weak example of *Seaforthia elegans*. It bears a well-balanced head of spreading leaves, and is altogether a handsome plant.

Stem cylindric, erect, sometimes as high as four feet; one and a half to two and a half inches diameter, ultimately covered with a smooth or slightly warted pale suberous cortex marked by the obscure transverse leaf scars. Leaves numerous, forming an erect ultimately spreading terminal crown, one and a half to three feet long. Petiole about equalling the rachis, cylindric, glabrous, with a few minute scattered prickles. Leaflets about six pairs, six to nine inches long, two to four inches broad, chartaceous, elliptic-oblanceolate, base narrowed into a short petiolule; apex gradually caudate, acuminate, margins spinulose-denticulate from the middle upwards, upper surface bright green, shining, lower paler; nerves numerous, slender, wholly immersed. Inflorescence unknown. New Granada, warm region.—*Gardener's Chronicle,* N.S., vol. xvii., p. 460.

Calceolaria tetragona. *Bentham.* A broad-leaved greenhouse shrub, with loose corymbs of large pale yellow flowers. Native of Peru. Belongs to Linariads. (Fig. 160, *a*, natural size of flowers; *b*, a diminished figure of a branch.)

This was exhibited by Messrs. Veitch, at a great exhibition of the Horticultural Society. It forms a compact evergreen bush, with pale green, broad, oblong, blunt, entire leaves, from three to four inches long; which, in a wild state, are frequently (always?) covered with a glutinous exudation. The flowers are among the largest in the genus, pale yellow, with a very large yellowish-green calyx, consisting of blunt, spreading, oblong sepals. In habit it is wholly distinct from all those previously in cultivation. It seems to be a true shrub; the foliage is much better than that of other garden species, and the large flowers only want brilliancy and gay marking to be very beautiful objects.

Amorpha canescens. It would appear that this plant was introduced to England soon after the beginning of the present century, and was afterwards lost until it was again brought to Kew, where it is now, in the Arboretum, and where it flowered during the autumn of 1881.

It attains the proportion of a medium-sized shrub, bearing terminal axillary tall erect spikes of purple flowers, closely packed on the stems, which, with their yellow anthers, are very handsome. The plant comes from the United States. It is said to succeed for any length of time only on very poor soil.

An undershrub two to four feet high. Leaves close-set, sessile, spreading on all sides, three to five inches long by three-quarters of an inch to an inch broad; rachis slender; leaflets ten to twenty-five pairs, close-set and produced along the whole length of the rachis. Spikes numerous towards the ends of the branches, axillary and terminal. Flowers one-quarter of an inch long, horizontal. Calyx green, subcampanulate, five-toothed, the lower tooth longest. Standard about twice as long as the calyx, hooded, obliquely truncate, bright amethystine blue. Wings and keel none. Stamens shortly united at the base, filaments exserted; anthers bright yellow. Ovary villous.—*Botanical Magazine*, 6618.

Nepenthes intermedia. Amongst the crowd of hybrid Nepenthes which in recent times have made their appearance, this is one of the most distinct in the handsome markings of the pitchers. The spots in this variety are much larger and less regular than in most others, partaking of the character of *N. Rafflesiana* and *N. Hookerii*. The colour is irregular, being much deeper in some places than in others, varying in this way not unlike the eggs of some species of Hawk. The pitchers are of medium size, when the plant is fully grown measuring from six to seven inches long, by two or three broad; the wings are large and prominent. In form the pitchers are almost cylindrical, a little narrower towards the mouth. It is said to be a cross between *N. Rafflesiana* and an unnamed Bornean species, and will no doubt succeed with treatment similar to other kinds.

Stigmaphyllon littorale. This is a tuberous rooted plant of climbing habit, bearing yellow flowers in corymbs. The flower-stems spring from the axils of the leaves, which are opposite and alternate. It attains considerable height, and is suitable for training up a rafter, or on a back wall in a warm house. Flowering as it does in autumn, it is deserving of a place. It will grow in any ordinary soil, in a pot sufficiently drained; if planted out, it should not have too much root-space allowed. Introduced from South Brazil.

A tall leafy climber. Stem and branches slender, terete. Leaves opposite and alternate, long-petioled, two to five inches long, variable in breadth and shape, dark green and glabrous above; petiole two to three inches long, flexuous, biglandular at the apex. Peduncles axillary, solitary, erect, longer than the petioles, many-flowered. Flowers in terminal simple or compound corymbs. Sepals small, ovate, obtuse, with a pair of glands on four of them. Corolla golden-yellow, an inch in diameter. Petals unequal, two larger than the rest, orbicular clawed, erose, the claw longer than the sepals. Stamens ten. Ovary three-lobed; styles three, exserted, stout, each terminated by hooded broadly sagittate stigmatiferous appendage.—*Botanical Magazine*, 6623.

Leea amabilis. A handsome and distinct fine-leaved plant from Borneo, requiring stove treatment, exhibited by Messrs. Veitch at a meeting of the Royal Horticultural Society.

Stems cylindrical, or sub-angular, somewhat fleshy, marked with circular cicatrices. The alternate unequally pinnate leaves are borne on long channelled leaf-stalks. Leaflets in two or three pairs, each leaflet shortly stalked with a minute stipel; all more or less lanceolate, rounded at the base. Upper surface of a velvety texture and deep bronze-green colour, with a broad central white stripe. Under surface claret-red. Leaves whilst young pale pinkish brown.—*Gardener's Chronicle*, N.S., vol. xvii., p. 492, with fig.

Bomarea frondea. A beautiful greenhouse climber, introduced by Messrs. Shuttleworth, Carder, and Co. Said to be found in the neighbourhood of Bogata. The following is Dr. Masters' description of the plant:—

Stems clothed with leaves all the length up to the inflorescence, flower-stems shorter than in *B. Caldasiana*, with the flowers larger and more trumpet-shaped, flower-segments more elongated. Colour of the outer segments rich yellow splashed with orange, inner segments clear canary yellow, with numerous small purplish-brown spots.—*Gardener's Chronicle*, N.S., vol. xvii., p. 668.

THE THREE-COLOURED VANDA.
(VANDA TRICOLOR.)

[Plate 55.]

THE THREE-COLOURED VANDA.

(VANDA TRICOLOR.)

A Beautiful Stove Epiphyte, Native of JAVA, *belonging to the Natural Order of* ORCHIDS.

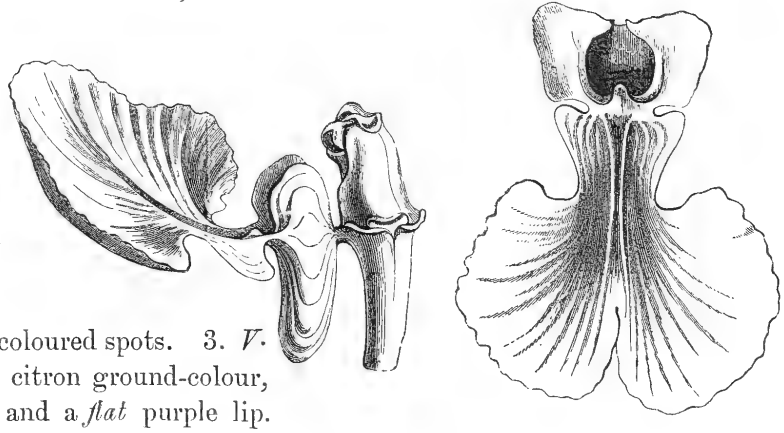
Specific Character.

THE THREE-COLOURED VANDA. Leaves distichous, channelled, shorter than the few-flowered raceme. Sepals leathery, unguiculate, obovate, obtuse. Lip of the same length, three-lobed, with three lines in the axis. Spur short, obtuse; its lateral lobes rounded, broader than that in the middle, which is convex, cuneate and emarginate.

Vanda tricolor: *Lindley in Bot. Reg.*, 1847, *sub t.* 59; *alias* V. suaveolens. *Blume Rumphia*, iv., p. 49 (1848).

THIS fine Orchid was first imported from Java by Messrs. Veitch, but has since reached England through other channels. It has the habit of *Vanda Roxburghii*, and its flowers appear in the same manner, but they are larger, have yellow and brown spotted sepals, and a rose-coloured lip, with the lateral lobes rounded, not acute, and colourless. It is not far removed from *V. Hindsii*, a New Guinea plant; but that species has a long many-flowered raceme extending as far as the points of the leaves. It has also been compared with *Vanda insignis*, an account of which has been published by Dr. Blume, with a figure, of a part of which the following is a copy:—

From this we learn that *Vanda insignis* has a concave, not convex, lip, with very small lateral lobes, and the broad central lobe deeply heart-shaped.



Many varieties of this species occur in collections, of which the three following are the most notable:—1. *V. t. pallens*. Flowers cream-coloured, with scattered brown spots. 2. *V. t. cinnamomea*. Flowers yellower, with lines of close cinnamon-coloured spots. 3. *V. t. planilabris*. With a clear citron ground-colour, scattered broad brown spots, and a *flat* purple lip. This looks very distinct from the others.

The figures at the bottom of this plate will serve to show how different *V. tricolor* is from *Vanda suavis*, fig. 3, and *Vanda Roxburghii*, fig. 2; of the latter the lip alone is given.

We avail ourselves of the present opportunity of giving a classified list of the Vandas.

AN ENUMERATION OF THE SPECIES OF VANDA.

Sect. A.—*Lip more or less lobed, divided, or expanded.*

1. Vanda teres *Lindl. in Wall. Cat.* no. 7324., *Bot. Reg.* t. 1809.; *alias* Dendrobium teres *Wallich.*

V. foliis teretibus, racemis ascendentibus sub-bifloris foliis æqualibus, sepalis oblongis obtusis: supremo erecto lateralibus semitortis labello suppositis, petalis majoribus suborbiculatis undulatis, labello basi conico: laciniis lateralibus ascendentibus subtruncatis intermediâ pubescente apice dilatatâ truncatâ emarginatâ.

Native of hot damp jungles in *Sylhet, Burmah, Martaban*, scrambling up the bark of trees.

Flowers very large; sepals white; petals sanguine, with a white border. Lip sanguine, strongly veined, yellow on the upper surface below the point, and speckled with crimson. A most beautiful species.

2. Vanda cœrulea *Griffith MSS. Plate* 40 *of this volume.*

3. Vanda Roxburghii *R. Brown in Bot. Reg.*, t. 506.; Vanda *Sir W. Jones;* Cymbidium tesselloides *Roxb.*

V. caule brevi crasso, foliis apice obliquè tridentatis, racemis erectis foliis longioribus, sepalis petalisque oblongo-obovatis undulatis tessellatis obtusis, labelli lobo medio ovato emarginato obtusissimo canaliculato lateralibus acuminatis columnæ subæqualibus.

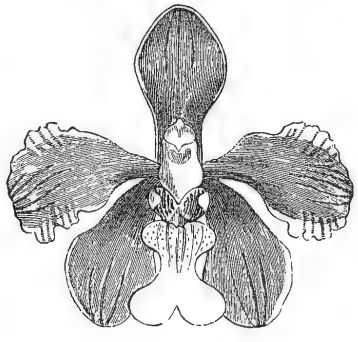
var. α. sepalis petalisque sordidè luteis maculis obscurè fuscis, labello cœrulescente apice utrinque denticulato. —*Bot. Reg.* t. 506. *Fig. 2 in the annexed plate.*

var. β. sepalis petalisque cupreis maculis oblongis luteis, labello lætè purpureo —*Bot. Mag.* 2245.

Found on trees in many parts of the East Indies.

Flowers large, tessellated or whole-coloured, with a bright blue or purple lip. A beautiful species.

4. Vanda furva *Lindl. Gen. & Sp. Orch.* p. 215; *Blume Rumphia*, iv. 192, fig. 1, 197 c.; *alias* Angræcum furvum *Rumph.; alias* Epidendrum furvum *Linn.; alias* Cymbidium furvum *Willd.; alias*? Vanda fusco-viridis *Lindl. in Gard. Chron.* 1848, p. 351.



V. foliis canaliculatis rigidis apice obliquè retusis; racemis erectis folio brevioribus laxis 3-5-floris, sepalis petalisque oblongo-obovatis curvatis, labelli lobis lateralibus ascendentibus obtusis intermedio patulo panduriformi apice rotundato emarginato plano lineis 5 elevatis, calcare obconico obtuso.—*Blume* quibusdam mutatis.

A native of the Moluccas.

According to Blume this has copper-coloured flowers with a pink lip. In *V. fusco-viridis*, which seems to be the same, they are described as dull brown, with a little greenish yellow at the edge, and a pure greenish yellow lip.

5. Vanda concolor *Blume Rumphia*, iv. p. 49; *alias* V. furva *Bot. Reg.*, *alias* V. Roxburghii unicolor *Hooker.*

V. caule alto, foliis laxis membranaceis apice obliquè tridentatis, racemis lateralibus pluriflоris, floribus distantibus sepalis, petalisque oblongo-obovatis undulatis unicoloribus obtusis, labelli trilobi lobis lateralibus obtusis intermedio cuneato bilobo.

A native of China.

According to Blume this is not the *Angræcum furvum* of Rumphius, but a distinct species. It has the habit of *V. Roxburghii* but differs not only in the whole colour of its sepals and petals, and the other characters above indicated, but also in being a large lax-growing plant, five or six feet high, with much thinner and longer leaves.

6. Vanda limbata, *Blume Rumphia*, iv. p. 49.

V. " labelli lobo medio arrecto panduriformi margine infernè revoluto apice rotundato-spathulato integerrimo."

Found in *Java.*

According to Blume the roots of this are very long. The flowers are ochre-coloured outside, brown and clouded on the inside; the lip lilac.

7. Vanda tricolor *of this plate.*

8. Vanda suavis *Lindl. in Gard. Chron.*, 1848, p. 351. *Fig. 3 of the annexed plate.*

V. racemis laxis brevibus, sepalis petalisque spathulatis retrorsis convexis valdè undulatis sublobatis apice rotundatis, labello convexo trilobo laciniâ mediâ altè bifidâ 3-costatâ lateralibus ovatis acutis patulis.

Reported to be a native of *Java.*

This has the foliage of *V. Roxburghii.* Flowers large, deliciously fragrant, white, with reddish-brown marbling and spotting. Lip deep violet. The lobed sepals and petals are remarkable; they are both bent back at an angle of about 120°, and the petals are twisted round so as to present the principal part of their back to the eye.

9. Vanda Hindsii *Lindl. in Hook. Journ. Bot.*

V. foliis distichis arcuatis canaliculatis (pedalibus) apice obliquè emarginatis et excisis, racemo horizontali 10-floro foliorum longitudine, pedicellis floribus 3 plo longioribus, sepalis petalisque obovatis unguiculatis crispis, labelli cornu brevi obtuso lobo intermedio convexo cuneato apice rotundato : lateralibus abbreviatis rotundatis hinc acutis explanatis.

This was found in the forests of *New Guinea* by the late Mr. Hinds.

The plant has the habit of *Vanda Roxburghii*, and its flowers seem to be of the same texture and size. Their colour cannot be judged of from dried specimens.

10. Vanda insignis *Blume Rumphia*, iv. p. 49, t. 192, fig. 2.

V. "foliis rigidis canaliculatis apice inæquali abscissis v. dentatis, racemis erectis fo ia adæquantibus laxis 5-7 floris, ph. perigon. obovato-oblongis rectiusculis, labelli lobis lateralibus ascendentibus obtusis intermedio arrecto apice dilatato rotundato undulato ad basin subhastatam e tuberculo obtuso cum lineis 2 elevatis, calcare obconico obtuso."—*Blume.*

Native of the mountains of *Timor*, in the Malay Archipelago.

The flowers are 2½ inches in diameter ; green outside, brownish inside. The lip is pink, white at the base, with a singular gauffered surface if we are to trust Blume's figure 192, but flat as in other Vandas judging from his figure 197, reproduced on an adjoining page.

11. Vanda densiflora ; *alias* Saccolabium giganteum *Lindl. in Wall. Cat.* no. 7306.

V. foliis latis loratis carnosis apice uncinato-bilobis obliquis, racemis strictis cylindraceis multifloris, sepalis oblongis obtusis, petalis angustioribus obovatis, labelli calcare conico laminâ breviore obovatâ carnosâ apice 3-lobâ : lobis rotundatis intermedio inflexo minore.

A native of jungles in the *East Indies.*

A reconsideration of the limits between *Vanda* and *Saccolabium* leads to the conclusion that this really belongs to the former genus, on account of its fleshy lobed lip and short spur. It has the habit of *Vanda multiflora.*

12. Vanda helvola *Blume Rumphia*, iv., p. 49.

V. "foliis rigidis subundulatis basi carinatis apice obliquè retusis, racemis erectiusculis folio brevioribus laxis subtrifloris, ph. perig. oblongo-spathulatis lateralibus 2 exterioribus sub labello conniventibus, labelli saccati lobis lateralibus conniventibus obtusis intermedio patulo triangulari."—*Blume.*

Wild in mountain woods on the West of *Java*, flowering in March and April.

Blume states this to be a most magnificent species, forming a sort of transition between *Vanda*, *Renanthera* and *Cleisostoma* Flowers the size of *V. suaveolens* (our *tricolor*), wine-red, shading into pale purple, with the lateral lobes a brighter purple.

13. Vanda longifolia *Lindl. in Wall. Cat.* no. 7322.

V. foliis longis loratis apice obliquis obtusissimis, racemis horizontalibus foliis triplò brevioribus, sepalis oblongis obtusis (undulatis ?), petalis angustioribus, labelli hypochilio concavo pubescente apice rotundato : cristâ carnosâ per axin, epichilio subrotundo-ovato obtuso.

A native of *Tavoy.*

Leaves a foot and more long. Flowers fleshy, apparently of the same size and character as in *V. multiflora.*

14. Vanda multiflora *Lindl. Collect. Bot.*, t. 33.

V. foliis loratis apice obliquis emarginatis, pedunculis subramosis erectis subcorymbosis foliis brevioribus, sepalis petalisque oblongis obtusis maculatis subæqualibus, labello ecristato : lobo medio ovato acutiusculo basi lineâ mediâ pilosâ in calcar decurrente aucto.

Found wild in *China*, as well as in *Nepal.*

A species of no beauty, with coarse fleshy leaves and small yellow flowers dotted with sanguine.

15. Vanda congesta *Lindley in Bot. Reg. misc.*, 1839, no. 94 ; *alias* Saccolabium papillosum *Lindl. in Bot. Reg.* t. 1552 ; *alias* Thalia maravara *Rheede* ; Cymbidium præmorsum *Swartz.* ; Epidendrum præmorsum *Roxb.* Aerides undulatum *Smith.*

V. foliis ligulatis apice obliquis cuspidatis, racemis brevissimis capitatis, sepalis carnosis lineari-ovatis obtusis, labelli calcare obconico obtuso intùs villoso laminâ ovatâ carnosâ papillosâ recurvâ.

Found in various parts of the *East Indies.*

A small-flowered species, with little axillary corymbs of yellow blossoms dotted with crimson.

16. Vanda parviflora *Lindl. in Bot. Reg.* 1844, *misc.* 57.

V. racemo simplici, sepalis oblongis, petalis linearibus spathulatis, labelli trilobi lobis lateralibus ascendentibus acutis intermedio oblongo canaliculato spongioso bilamellato apice circulari denticulato, calcare angusto obtuso.

Introduced from *Bombay* in 1843.

The flowers are small, pale ochre-coloured, with a lip sprinkled all over with extremely fine purple points ; the middle lobe of the lip is rather spongy, has two broad ridges, between which runs a channel, and at the point it is almost exactly circular, with a few small toothings.

17. Vanda spathulata *Spreng. Syst.* 3. 719. ; *alias* Ponnampou maravara *Rheede* ; Epidendrum spatulatum *Linn.* ; Limodorum spatulatum *Willd.* ; Aerides maculatum *Smith !*

V. foliis ovato-oblongis obtusis obliquè emarginatis, racemis erectis multifloris foliis et caule multò longioribus, sepalis petalisque oblongis obtusis planis, labelli hypochilio anticè bicalloso epichilio rhomboideo apice incurvo medio cristato, ovario hexaptero.

Native of *Mysore* and *Malabar.*

A beautiful species with long corymbose racemes of golden-yellow flowers standing high above the short distichous

leaves. Both leaves and flower-stalks are marked with crimson spots.

18. Vanda lamellata *Lindl. in Bot. Reg. misc.* 1838, no. 125.

V. foliis distichis coriaceis obliquè et acutè bidentatis, spicâ multiflorâ, sepalis petalisque obovatis obtusis undulatis inferioribus subincurvis majoribus, labello basi mammoso, limbo obcuneato retuso auriculato bilamellato ponè apicem bituberculato.

Found wild in the *Philippines:*

Flowers in long loose racemes, pale yellow, streaked with dull pale red. Not very handsome.

19. Vanda peduncularis *Lindl. Gen. & Sp. Orch.*, p. 216, no. 6.

V. foliis loratis apice altè et obliquè bilobis, pedunculo longissimo filiformi subramoso apice paucifloro corymboso, sepalis oblongis obtusis, petalis duplò minoribus, labello oblongo retuso villoso basi bilamellato.

Grows on trees in *Ceylon.*

Peduncle very long, slender, branched, purple. Flowers the size of *Ophrys apifera*, not unlike them. Sepals and petals pale green, streaked with purple. Lip shaggy, purple, bordered with green.

20. Vanda cristata *Lindl. Gen. & Sp.* no. 9; *Sertum Orchidaceum*, f. 3. in fronte; *Bot. Reg.* t. 48.

V. foliis canaliculatis recurvis apice truncatis obliquè excisis tridentatis, racemo erecto trifloro foliis breviore, sepalis oblongis obtusis fornicatis, petalis angustioribus incurvis, labelli lobis lateralibus brevibus acutis intermedio vittato oblongo convexo apice saccato inæqualiter tricorni, cornu brevi conico.

Not uncommon in *Nepal.*

Flowers large, green, with a large broad lip, regularly striped with rich purple on a buff ground, and divided at the end into 2 narrow acute diverging lobes.

Sect. B.—*Lip contracted at the end, undivided, curved upwards or downwards.*

21. Vanda Griffithii (Vandæ Sp. *Griffith, Itinerary Notes*, p. 132, no. 846.)

V. facie foliisque V. cristatæ, floribus minoribus, labello basi concavo conico laciniis lateralibus nanis erectis intermediâ linguiformi convexâ emarginatâ basi minutè bicallosâ.

Found in *Bootan*, in Northern Hindostan, on the Monass River banks, on trees, at an elevation of 2,300 feet.—*Griffith.*

In appearance this resembles a small specimen of *V. cristata.* Flowers yellowish-brown inside, and somewhat tessellated. Lip lilac, with deep yellow stains near the base. Capsule said to be nearly a span long, with six wings.

22. Vanda Batemanni *Lindl. in B. R.*, 1846, t. 59; *alias* Fieldia lissochiloides *Gaudich.*

V. radicibus crassissimis, foliis distichis coriaceis obliquè emarginatis obtusis racemo laterali multifloro brevioribus, bracteis coriaceis cucullatis squamæformibus, floribus maximis planis coriaceis, alabastris globosis, sepalis obovato-cuneiformibus obtusis, labello triangulari basi saccato lobis ascendentibus acutis apice carnoso sulcato uncinato dente elevato in medio et cristâ brevi transversâ juxta basin.

Found wild in the *Moluccas, Philippines* &c., growing on trees near the coast.

A very large erect plant, with remarkably thick aerial roots, sword-shaped curved two-ranked hard leaves averaging two feet in length, and a still longer spike of some score of flowers, each full two inches and a half across, flat, leathery, and long enduring. But it is not alone for their size that these flowers are so especially worthy of notice. Their colour is indescribably beautiful. If you look them in the face, they are the richest golden yellow, spotted all over with crimson; but when seen from behind, they are wholly a vivid purple, fading away at the edges into the violet of *Cereus speciosissimus.*

23 Vanda gigantea *Lindl. in Wall. Cat.* no. 7326; *alias* V. Lindleyana *Griffith MSS.*

V. foliis latè loratis apice obtusissimis emarginatis subæqualibus, racemis foliis duplò brevioribus, sepalis petalisque oblongo-obovatis obtusis, labello incurvo canaliculato basi cordato apice dolabriformi obtuso: callo conico in medio.

A native of *Moulmein*, and other parts of the *Burmese* empire.

Leaves very long and broad, tough and fleshy. Flowers of the size of *V. Roxburghii*, resupinate; deep yellow with cinnamon brown blotches. Mr. Griffith found it in flower at Mergui, March 1, 1835.

24. Vanda Lowei *Lindl. in Gard. Chron.* 1847, p. 239.

V. (foliis coriaceis rigidis distichis); racemo longissimo pendulo flexuoso scabro-piloso, floribus maximis distantibus coriaceis, sepalis petalisque lanceolatis acuminatis valdè undulatis extus scabris, labello parvo ovato glabro cucullato acutissimo supra medium cornu refracto setâque sub apice aucto.

Native of the forests of *Borneo* on high trees in very damp places.

Flowers lemon-yellow, barred and blotched with bands and spots of the richest cinnamon, three inches in diameter, disposed in pendulous racemes 10—12 feet long.

THE TWO-ROWED APONOGETE.
(APONOGETON DISTACHYON.)

[Plate 56.]

THE TWO-ROWED APONOGETE.

(APONOGETON DISTACHYON.)

A Hardy Aquatic, from the Cape of Good Hope, *belonging to the Natural Order of* Arrowgrasses (*Juncaginaceæ*).

Specific Character.

THE TWO-ROWED APONOGETE. Leaves oblong-lanceolate, obtuse, seven-nerved; spike two-parted; bracts oblong in two rows; cap taper-pointed; stamens twelve.

Aponogeton distachyon: *Linnæi Supplementum*, p. 215; *Andrew's Repository*, t. 290; *Botanical Magazine*, t. 1292.

WE reproduce this plant in the hope of presenting a better figure of it than has yet appeared, and of drawing attention to a hardy aquatic of which too little is known. Many years have elapsed since it was reported that a handsome sweet-scented water-plant from the Cape had been naturalised in the tanks of the Botanic Garden, Edinburgh. It was to the species before us that allusion was made, and it has since found its way, here and there, southward. It was introduced into Cornwall by Sir Charles Lemon, where, as well as in Devonshire, it seems to have as completely established itself as if it were a native of the county.

The correspondent who first brought the Devonshire plant under our notice expressed a doubt whether it was really the two-rowed Aponogete, its flowers being so much larger than they are represented in books. There is, however, no doubt about its name being correct, the differences that have been remarked being the mere result of exuberant luxuriance. The specimens came from an open pond at Woolston, the seat of the Rev. Charles Osmond in the parish of Loddiswell, near Kingsbridge, South Devon, where the plants thrive in a surprisingly luxuriant manner, producing thousands of delicious fragrant flowers throughout the summer, and even in January bearing three hundred blossoms as fine as those represented. Innumerable seedling plants arise around their parents. To Mr. Osmond we are also indebted for the specimens, and for the following history of his acquisition of the plant:—

"About three years since a root was given me the size of a shot, which I planted in a small pan and sunk it in the pond; it grew rapidly, and, in a few months, produced flowers; and, unobserved by me, seed also, from which have sprung up to the surface of the water hundreds of plants. The spring which supplies the pond is peculiarly clear, always running, and, in the severest winter, rarely freezes."

The species is common at the Cape, where it bears the name of Water Uintjies. Mr. Bunbury mentions it thus :—

"The flowering tops of the Aponogeton distachyon, a pretty white-flowered floating plant, frequent in pools of water in various parts of the colony, are sometimes used both as a pickle and as a substitute for Asparagus."—*Residence at the Cape*, p. 208.

In appearance this resembles a Pondweed (*Potamogeton natans*), except that it is of a clear green colour without any tinge of brown. Its bulb (or corm) is described as being as large as a hen's egg. The leaves float on the surface of the water, are oblong, about 18 inches long when full grown, flat, and have three distinct veins running parallel with the main rib. When young their sides are rolled inwards. The flowers are placed on a forked inflorescence, originally included within a taper-pointed calyptrate spathe (cap), which is forced off as they advance in size. When fully formed each fork of the inflorescence is very pale green, and is bordered by two rows of large ovate-oblong obtuse ivory white bracts, in the axils of which stand the minute flowers. The latter are bisexual, and destitute of both calyx and corolla. Twelve hypogynous free stamens, with dark purple anthers, surround from four to six distinct carpels, each of which has a short curved style, a simple minute stigma, and six erect anatropal ovules. After flowering the bracts and inflorescence grow rapidly, acquire a deep green colour, and soon resemble tufts of leaves, among which lie in abundance large membranous green indehiscent beaked carpels, containing about four seeds each, and readily tearing at the sides. The seeds are exalbuminous, oblong, pale brown. The embryo is an oblong fleshy body, slit on one side, and in all respects is the same as in Triglochin; through the slit the plumule is pushed, while the seeds are still in their seed-vessels; germination beginning, apparently, as soon as the seeds come into contact with moisture.

These details sufficiently show that the natural affinity of the genus is with Potamogeton, Triglochin, &c., and by no means with the dicotyledonous Saururads, as Richard and others have imagined.

GLEANINGS AND ORIGINAL MEMORANDA.

NEPENTHES DORMANNIANA. This is another of the fine hybrid Nepenthes which Mr. B. S. Williams, of the Holloway Nurseries, has been the means of bringing before the gardening public. It is thus described by Dr. Masters in the *Gardener's Chronicle*, p. 525, vol. xvii. :—

Leaves broadly lance-shaped, acute at the apex, and finely ciliate at the edges. Pitchers six inches long, by three in breadth, flask-shaped, pointed at the base, distended below the middle, tapering upwards into a broad tube, the rim of which is broad, finely-ribbed and slightly oblique ; wings deep fringed at the edges and rounded at the base. Ground colour green, heavily spotted with deep red blotches. A very fine variety.

PINGUICULA CAUDATA. The Pinguiculas known in cultivation are mainly plants more of an interesting than an effective character, bearing somewhat insignificant flowers, but in this species the leaves attain a size that give it a conspicuous appearance, and the flowers also are remarkably handsome, rising well above the compact spreading tuft of leaves which form a crown, making the plant look not unlike a dwarf growing Echeveria. The scapes rise to a height of six or seven inches, bearing the flowers on their apex. The colour of the flowers is an intensely vivid violet-purple, reminding us of some of the dark shaded kinds of Masdevallia. This seems identical with the plant shown some time previous by Mr. Sander under the name of *P. Bakeriana*, but is very much larger and finer than when first seen. It is a beautiful plant, requiring little room. It comes from Mexico, where, we understand, it occupies shady moist places.

More or less glandular-pubescent in the leaves above scapes and calyx. Leaves in the young plant small, ovate, acute, densely imbricate in an orbicular rosette ; in the older plant few, spreading and recurved, one to four inches long by one and a half to three inches broad, obovate, obtuse, with a thick obscure midrib, dull pale green with dirty purplish margins. Scapes five to seven inches long. Flower deep bright violet-purple. Calyx-lobes oblong or obovate-oblong, obtuse. Corolla one to two inches in diameter ; tube very short indeed ; limb spreading, deeply lobed ; four lateral lobes obovate, with rounded tips ; lower lobe cuneate-obovate, tip broad, retuse. Stamens very short, included in the tube, filaments glandular. Ovary depressed-globose glandular ; stigma sessile, very broad, transversely two-lipped.—*Botanical Magazine*, 6624.

HOYA GLOBULOSA. Although this species has much the general character, in its habit of growth, and conformation of its flowers, with several others of the family—the Cunningham Hoya (*H. Cunninghami*), for instance—still, from the cultivator's point of view, it is sufficiently distinct to make it an acceptable addition to our warm house climbers. One advantage possessed by this and other twining Hoyas is that they are not such coarse rampant growers as many stove climbers are, consequently do not too much shade the plants grown beneath them in the houses where they are suspended on the rafters overhead. *Hoya globulosa* will no doubt succeed under like conditions to most of the other species, thriving in ordinary loam

or peat, with not too much pot-room. It will most likely not require more warmth than that of an intermediate house. It has been recently sent out by the Cranston Nursery Company, Hereford, who exhibited it in London. The plant is thus described in the *Gardener's Chronicle*, p. 732, vol. xvii.

Leaves oblong, leathery, rounded or subcordate at the base, acuminate at the apex. Flowers in globose umbels, ground-colour pale straw or cream, coronal appendages pink at the base. A native of the Sikkim Himalaya.

Bletia patula. *Hooker.* A handsome terrestrial tuberous Orchid, with rich purple flowers. Native of Cuba and Hayti. Blossoms in May. (Fig. 161, a reduced sketch; *a*, a flower in front of the natural size; *b*, the lip spread open and a little magnified.)

161

For specimens of this we are indebted to the Earl of Derby, with whom it blossomed at Knowsley. It was imported from Hayti, whence we also received it from Mr. Charles Mackenzie; it already produces a flower-stem three feet high, with a promise of greater vigour. Mr. Linden also found what seems to be the same species on the sandy hills of Yatera, in Cuba, in May, 1844, with large bright purple flowers, lanceolate leaves, a foot and a half long; very strong, roundish oval pseudo-bulbs, and a stem a foot and a half high. In general habit this is not unlike the common *Bl. verecunda;* it is still more like *B. Shepherdii:* its lip is, however, in no degree three-lobed; although, from the manner in which it is folded on each side of the end, it looks as if it were so. This peculiarity is well represented in the *Botanical Magazine*, t. 3518. The true form of the lip is an exact oblong, as in our cut, with a very short stalk at one end, and a deep notch at the other. It has a thin texture, is much plaited, and has along the middle from five to seven white parallel crests, which are interrupted here and there, and end abruptly below the end of the lip.

Sedum Kamtchaticum. *Fischer and Meyer, Ind. Seminum in Horto Petropolitano; Walpers' Repertorium*, ii. 262. Received from Dr. Fischer, in June, 1844, and said to have been collected by Dr. Schrenk on the Chinese limits of the South of Soongaria.

This is a handsome herbaceous plant, with bright yellow flowers like those of *Sedum Aizoon*, which it much resembles in habit. The leaves are obovate and toothed at the upper half only, but they narrow in a wedged-shaped manner to the

base. They are red edged, and the stem has also a strong stain of that colour; most of them are alternate, a very few only near the summit being opposite to each other. It is a hardy perennial, requiring a light soil and dry situation. It is easily increased by cuttings any time during the summer or autumn, and flowers from June to August. It proves to be a fine showy plant for Rockwork, where it blooms freely and remains long in succession.—*Journal of Hort. Soc.*, vol. i.

ROSA FORTUNIANA. A scrambling evergreen hardy shrub, with large solitary flowers, and ternate or quinate leaves. Native of China. Introduced by the Horticultural Society. (Fig. 162.)

R. Fortuniana (Banksiana), ramis scandentibus glabris, aculeis parvis falcatis distantibus, foliolis 3-5nisve ovato-lanceolatis nitidis argutè serratis, floribus solitariis, calycis tubo hemispherico nudo sepalis ovatis indivisis.

Among the roses introduced by Mr. Fortune, for the Horticultural Society, is one which does not appear referable to any known species. It is a scrambling shrub, with slender branches, sparingly armed with small falcate prickles. The leaflets are ovate-lanceolate, finely serrate, thin, bright green, shining on both sides, and usually in threes, sometimes in fives. The stipules are small, subulate and deciduous as in the Banksian roses. The flowers grow singly on short setose peduncles; have a hemispherical naked calyx tube, and ovate undivided sepals, and are double white, with their petals loosely and irregularly arranged in a mass about three inches in diameter. That it is not a Banksian rose is proved by its solitary flowers and prickly stems; that it is no variety of *R. sinica*, is shown by its weaker habit, and the total absence of spines from its calyx-tube. Can it be a mule between the two? The plant has not much beauty, so far as the flowers are concerned, but its rapid growth, straggling habit, and evergreen leaves, render it extremely well suited for covering walls, verandahs, or rustic work in gardens.

162

Franciscea Calycina. *Bentham* (*alias* Besleria inodora, *Vellozi; alias* Franciscea confertiflora, *Henfrey*). A beautiful stove shrub, with large violet flowers. Native of Brazil. Belongs to Linariads.

"We continue the genus *Franciscea*, as sanctioned by Mr. Miers, in the fifth volume, new series, of 'Annals of Natural History,' for the blue-flowered species of *Brunsfelsia*, though we fear Mr. Bentham's views of the unsoundness of the generic distinction are too true. We find the present plant figured and described by Mr. Henfrey in the 'Magazine of Botany,' under the name of *F. confertiflora*, and the only synonym given is the *Brunsfelsia confertiflora* of Mr. Bentham, a species with which we are familiar, and of which there exists a splendid figure in Pohl's 'Plantarum Brasiliarum Icones:' but the figure and description are totally at variance with our plant. It is unquestionably the *F. (Brunsfelsia) calycina* of Bentham, figured, characteristically enough, in the 'Flora Fluminensis,' and well distinguished by the large inflated calyx and other characters. As we are indebted for our plant to Messrs. Lucombe, Prince, and Co., Exeter Nursery, who received it from Belgium, we presume that the Belgian horticulturists are answerable for anything wrong in the name, though that is not implied in the 'Magazine of Botany.' It is a most lovely species, a great favourite with cultivators. Our garden is further indebted for a flowering plant to Messrs. Henderson, of the Pine Apple Nurseries. It forms a compact bush, blossoming readily when eighteen inches high; and, like other real *Franciscеas*, the flowers are at first violet-blue, then white, or nearly so. A moderate sized shrub, with terete, glabrous branches and copious evergreen foliage. Leaves alternate, on very short footstalks, nearly elliptical, entire, obtuse at the base, acute, or shortly acuminated at the point, glabrous, or with a slight degree of hairiness on the midrib beneath. Cymes few-flowered, generally terminal. Pedicels thickened, as long as the calyx. Calyx large, elongated, tubular and inflated, glabrous, five-toothed at the apex. Corolla large, rich purple, with a white ring round the mouth of the tube, soon changing to a pale purple, and then almost to white. Tube curved downwards, not much longer than the calyx: limb oblique with regard to the tube, more than two inches across, of five, broadly obovato-rotundate, horizontally spreading and waved segments. Stamens and style quite included."—*Botanical Magazine*, t. 4583.

Vanda insignis. *Blume.* A fine stove epiphyte from Java. Flowers yellow and brown, with a whitish lip streaked at the base. Introduced by John Knowles, Esq.

We owe to the kindness of John Knowles, Esq, of Manchester, a living specimen, which entirely confirms the accuracy of Dr. Blume's figure, and description. It is in the way of *V. tricolor* and *suavis;* and the flowers are of the same size, with long white angular stalks.—*Linden.*

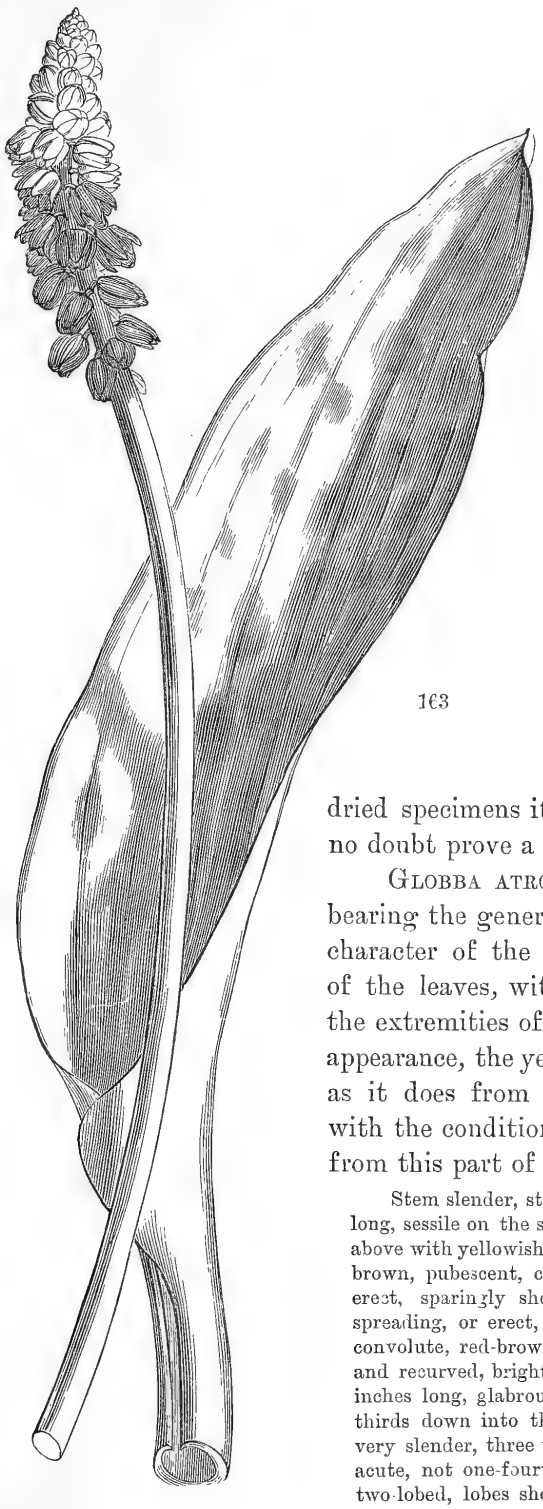
The sepals and petals are dull yellow blotched with brown. The lip is white with a faint shade of violet in the middle, and rich deep crimson streaks at the base. The flowers have a slight and agreeable fragrance, even when cut and kept in a sitting-room.

Ixora Javanica. *De Candolle* (*alias* Pavetta Javanica, *Blume*). A beautiful orange-flowered stove-plant belonging to Cinchonads. Native of Java.

"From the collection of Messrs. Rollisson, Tooting, who imported this very charming species of *Ixora* from Java, and with whom it blossomed in March, 1851. It is handsome in the rich coral colour of the branches, in the full green of its copious foliage, and in the large corymbs of orange-scarlet flowers. The *I. Javanica* of Paxton, 'Mag. of Bot,' v. 14, p. 265, is very different from this, and not Blume's plant. A shrub, glabrous in every part, with compact branches which are rounded, and the younger ones at least of a rich coral colour. Leaves four to five, or even six inches long, between coriaceous and membranaceous, ovate-oblong, acute or acuminate, entire, penninerved, and acute or more or less attenuated at the base, where it gradually passes into a short petiole, not a quarter of an inch long. Stipules from a broad connate and therefore amplexicaul base, terminating suddenly in a long cuspidate spine-like point. Corymb terminal, large, on a long peduncle, which, as well as the trichotomous branches, are deep coral-coloured. Calyx almost turbinate, with two small bracteoles at the base: the limb of four, erect, rounded, obtuse lobes. Tube of the corolla an inch and a half long, slender filiform, red: limb an inch across, deep orange red, the lobes horizontally patent, obovato-rotundate. Anthers linear, when perfect lying at the mouth of the corolla, but very deciduous. Style as long as the tube of the corolla; its thickened bifid stigma a little exserted."

"This, like the majority of the genus, is a showy species. Being a native of Java, it requires to be cultivated in a warm and moist stove; and this is not only necessary in order to produce a luxuriant growth, but also to prevent the plants from becoming infested with insects, to which the species of this and other allied genera are very commonly subject, and which often cannot be got rid of without making the plants look very unsightly and producing an unhealthy condition. Pits heated with fermenting stable litter or leaves are well suited to the growth of such plants as Ixora; the confined and moist atmosphere encourages a vigorous growth, and this, with the vapour arising from the fermenting matter, are great preventatives of the breeding of insects. The soil may consist of about one-half light loam and peat, or leaf-mould, with a small quantity of sharp sand, and care must be taken to drain it well, and, in shifting, not to over-pot it. This, like the rest of the genus, is readily increased by cuttings treated in the manner generally recommended for the propagation of hard-wooded stove plants."—*Botanical Magazine*, t. 4586.

DRIMIOPSIS MACULATA. A greenhouse bulbous plant, of little beauty, from the Cape of Good Hope. Flowers green and white. Belongs to Lilyworts. (Fig. 163.)



163

DRIMIOPSIS. *Perianthium* herbaceum campanulatum, subæquale. *Stamina* æqualia, epipetala. *Ovarium* in stylum attenuatum; *ovula* gemina, collateralia – Herbæ *bulbosæ*, foliis *succulentis*, scapo *racemoso*, *comâ destituto*.

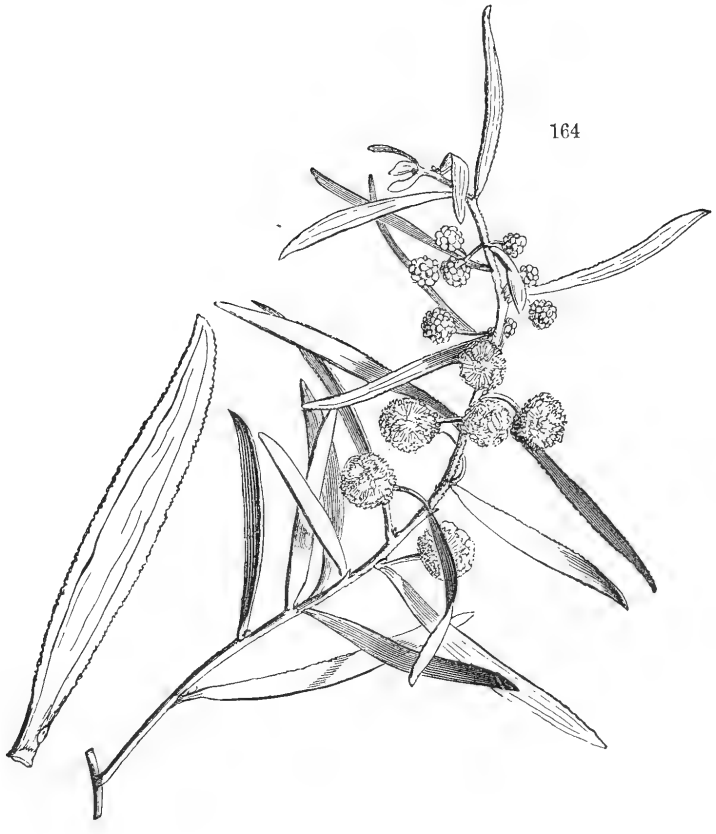
VANDA SANDERIANA. This plant as described, from dried specimens of the flowers, by Professor Reichenbach, in the *Gardener's Chronicle*, p. 588 of volume xvii., seems to be a very fine thing, with flowers of extraordinary size, individually five inches in diameter. A still further merit which it possesses is that the segments, instead of being twisted as in the different forms of *V. suavis*, are quite flat, presenting their whole inner surface to view. The colour of the odd petals and sepals is described as mauve with basilar purple stripes; the lateral sepals yellow, washed with brown and with broad purple veins; the borders mauve, lip dark brown, green at the sides. Column golden yellow. Leaves broader than those of *Saccolabium violaceum*. From the dried specimens it seems to be a most profuse bloomer, and will no doubt prove a very fine thing.

GLOBBA ATRO-SANGUINEA. In this Globba we have a plant bearing the general appearance of a miniature Canna, in the erect character of the stems, as well as in the form and arrangement of the leaves, with the erect head of flowers borne similarly on the extremities of the reed-like stems. The flowers have a pretty appearance, the yellow corolla setting off the red bracts. Coming as it does from Borneo, it will require stove-heat to grow it, with the conditions generally found to answer for plants that hail from this part of the world.

Stem slender, strict, erect, two to three feet high. Leaves three to four inches long, sessile on the sheath, elliptic-lanceolate, acuminate at both ends, dark green above with yellowish margins, pale beneath and there loosely pubescent; sheath red-brown, pubescent, closely clasping the stem throughout its length. Spike strict, erect, sparingly shortly branched, pubescent; lower flowerless bracts distant, spreading, or erect, one-half to three-fourths of an inch long, oblong-lanceolate, convolute, red-brown; upper or flowering bracts crowded, ovate, acute, spreading and recurved, bright red, as are the rachis and branches. Flowers one and a half inches long, glabrous. Ovary oblong and calyx red, the latter tubular cleft two-thirds down into three narrow acuminate segments. Corolla pale yellow; tube very slender, three times as long as the calyx, limb short; outer segments ovate, acute, not one-fourth the length of the tube; inner smaller. Lip oblong, base two-lobed, lobes short rounded. Filaments as long as the corolla-tube; anther-wings divided two-thirds way down into triangular acute lobes.—*Botanical Magazine*, 6626.

Masdevallia Estradæ delicata. Variable in appearance as are many species of Orchids from others of the same genera, there is no genus that affords such striking difference in the character of the flowers as is to be found in the Masdevallias, not alone in their great diversity of form, but also of colour. This plant, which has appeared in Mr. Bull's collection, differs from the ordinary *M. Estradæ*, in having more yellow in the top sepal, the lower sepals also differing in their colour, being a paler shade of purple. It seems to be a good grower, and will be acceptable to those who are anxious to possess complete collections of these handsome and most singular plants.

Acacia viscidula. *Bentham.* A handsome erect greenhouse shrub, with balls of deep yellow flowers in March and April. Native of New South Wales. (Fig. 164.)



This plant is one of the most useful of the New Holland Acacias, not growing to a large size, and flowering profusely during all the spring. Frazer found it on the banks of the Lachlan; and Sir Thomas Mitchell, in September, scarcely in flower, at the base of sandstone mountains, in the subtropical parts of New Holland, where it formed a tree 12 feet high. Its leaves and branches are covered with a glutinous substance, which, when dry, cracks and gives the edges of the leaves and the angles of the branches a broken appearance. In our gardens this passes under the name of *A. ixiophylla*, a very closely allied species, with short spikes of, not solitary, flower-heads, and leaves three or four times as broad. In this the flower-heads often grow in pairs, but they are not united by any common peduncle.

THE DARWIN BERBERRY.
(BERBERIS DARWINII.)

[PLATE 57.]

THE DARWIN BERBERRY.

(BERBERIS DARWINII.)

A Hardy Evergreen Shrub, from PATAGONIA, *belonging to the Natural Order of* BERBERIDS.

Specific Character.

THE DARWIN BERBERRY.—Spines radiating, five-parted, covered as well as the branches with a close rusty fur. Leaves simple, evergreen, wedge-shaped, three-toothed, sometimes with another tooth or two at the side, spiny. Racemes dense, pendulous. Pistil flask-shaped, narrowed at the base, with a long style.

Berberis Darwinii; *Hooker, Icones plantarum*, t. 672; *Lindley, in Journal of Hort. Soc.*, vol. v., p. 6.

THERE is no doubt that this most beautiful shrub must be regarded as one of the best hardy evergreens that has been imported during the present century; scarcely inferior in horticultural value to a laurel or a holly. It is thus mentioned in an account of Evergreen Berberries cultivated in Great Britain:—

"Chiloe and Patagonia furnished this to Mr. T. Lobb, whose seeds have enabled Messrs. Veitch and Co. to raise it. Mr. Darwin also found it in Chiloe; Bridges in Valdivia and Osorno.

"It forms an evergreen shrub three to five feet high, of extraordinary beauty, and conspicuous for its ferruginous shoots, by which it is at once recognised. The leaves are of the deepest green, shining as if polished, not more than three-quarters of an inch long, pale green, with the principal veins conspicuous on the under side, with three large spiny teeth at the end, and about one (or two) more on each side near the middle. Although small, the leaves are placed so near together that the branches themselves are concealed. The flowers are in erect racemes, and of the same deep orange-yellow as in the Box-leaved species.

"Mr. Veitch informs me that this plant appears to be decidedly hardy: as is probable, considering that it grows naturally near the summer limits of snow upon its native mountains."

To this we find nothing to add. The coarse hairs that protect the spines and branches, but do not extend to the leaves, which are remarkably smooth and shining, distinguish the species at the first glance.

THE GESNERA-FLOWERED SAGE.
(SALVIA GESNERÆFLORA.)

[PLATE 58.]

THE GESNERA-FLOWERED SAGE.

(SALVIA GESNERÆFLORA.)

A Magnificent Greenhouse Herbaceous Plant, from CENTRAL AMERICA, *belonging to the Order of* LABIATES.

Specific Character.

SECT.—Calosphace, longifloræ.—*Bentham.*

THE GESNERA-FLOWERED SAGE.—The habit quite that of *S. fulgens;* but the upper lip of the corolla flatter and less shaggy, the tube longer, the style less feathery, the flowers far more abundant and conspicuous.

Salvia Gesneræflora *of the Gardens.*

THERE is great difficulty in saying in what precise particulars this differs botanically from *S. fulgens* or *Cardinalis;* the habit, foliage, and mode of flowering are the same in both, nor is there any difference in the flowers beyond what is pointed out in the foregoing description. Nevertheless the two plants are in a horticultural point of view quite distinct. This flowers all through the autumn and winter; *S. fulgens* is a summer species. The latter, handsome as it sometimes becomes, is no favourite on account of its incurably bad habit of becoming shabby and casting its blossoms. This, on the other hand, is of vigorous constitution, holds its flowers as well as a Gesnera, after which it is happily named, and has a fine rich brilliant green foliage.

The plant from which the accompanying figure was taken was struck from a cutting obtained at Syon, where it had been raised from Mr. Purdie's Colombian seeds. It

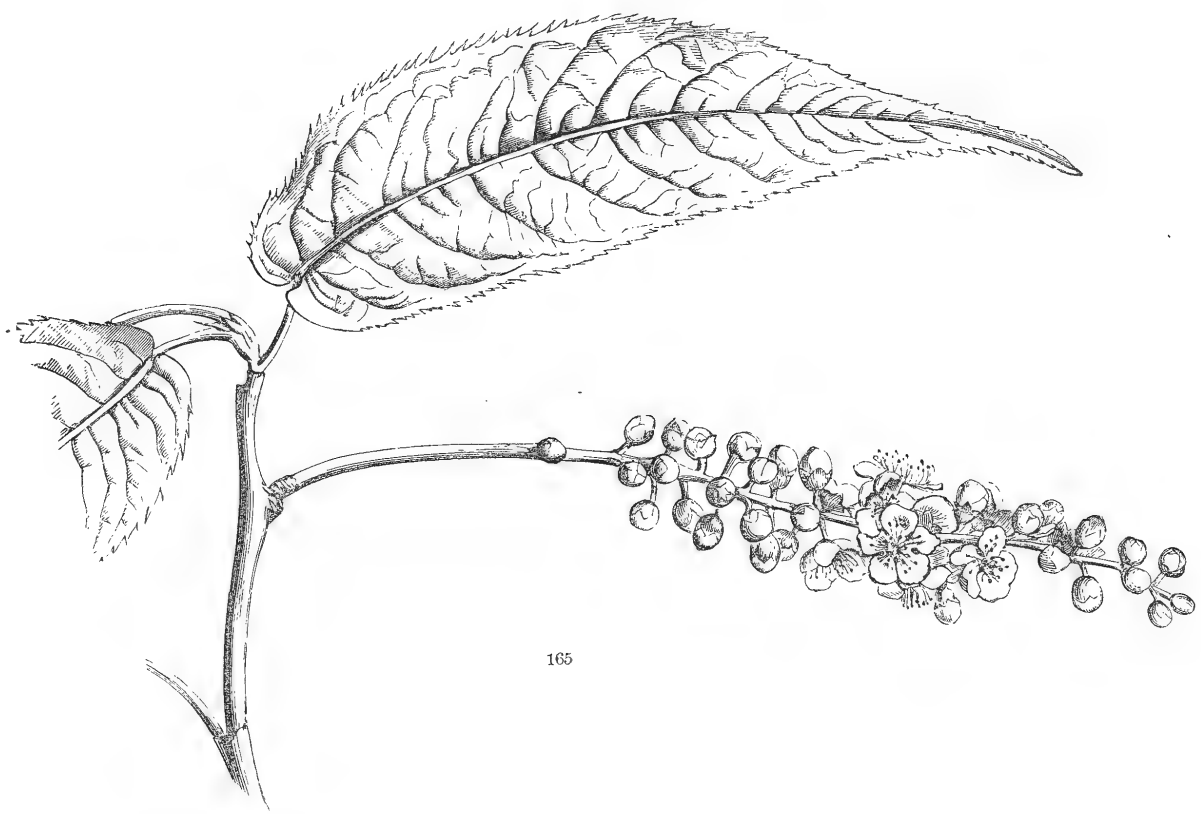
formed a large bush, more than three feet high, in a cold conservatory, and was a blaze of scarlet from November till April. During that time it was twice sent to London for exhibition, and on neither occasion exhibited the least appearance of having suffered in consequence.

It is struck readily from cuttings, and may be as common as a Stock or an Anemone, wherever a little greenhouse shelter and plenty of pot room can be given to it.

GLEANINGS AND ORIGINAL MEMORANDA.

CERASUS NEPALENSIS. *Seringe.* A hardy deciduous tree, with white flowers, from Nepal. Introduced by the Horticultural Society. Blossoms in June. (Fig. 165.)

This is very like our common Bird-cherry, and must be regarded as its Indian representative. The leaves are



165

cordate at the base, very glaucous underneath, where also the veins are remarkably shaggy. The peduncles and pedicels are alike downy. The flowers are smaller than in the European species. We suppose there can be no doubt about this being the *Cerasus Nepalensis* of Seringe, notwithstanding the apparent errors and material discrepancies in his specific character, for there are but two Bird-cherries in the North of India, namely this and *C. undulata*, much better called

capricida by Dr. Wallich, and the latter is a very different plant. It is much to be regretted that Mons. Seringe should not have been aware of Dr. Wallich's catalogue names when he published the Rosaceæ in De Candolle's Prodromus, in which case the present plant would have borne the name of *C. glaucifolia*, so much more appropriate than *C. Nepalensis*.

Dr. Wallich states that the present plant is found in both Nepal and Kamaon.

PYXIDANTHERA BARBULATA. *Michaux* (*alias* Diapensia barbulata, *Elliott*; *alias* Diapensia cuneifolia, *Salisbury*). A charming prostrate shrub, with small pink flowers. Native of the United States. Belongs to the Order of Diapensiads.

Early in the month of May I was gratified on the arrival of the royal mail steamer from New York, with tufts of this charming little plant sent me by Mr. Evans of Radnor, Delaware, gathered in the pine-barrens of New Jersey, as fresh and as full of perfect flowers as if that day removed from the native soil. These have given me the means of publishing the accompanying figure, of which, as far as we know, no other representation has been given than the very indifferent one of Michaux. The genus we think correctly distinguished from *Diapensia* by the aristate anthers and few-seeded capsules and habit. It is more difficult to determine the place of this little family. It clearly belongs to the "*Corolliflorœ*," yet De Candolle has hitherto passed it by. Brown removes it from *Convolvulaceæ*, where Jussieu was inclined to place it. Salisbury referred it to *Ericaceæ*, but apparently with little reason; and Endlicher says of it, "*Ericaceis* affinis." Dr. Lindley places it between *Loganiaceæ* and *Stilbaceæ*. The rose-coloured buds are as pretty, nestling among the foliage, as the fully expanded white flowers. A small, tufted, procumbent, creeping, and wide-spreading shrub, having a long tap-root in the centre of the tuft: branches terete, slender, younger ones woolly. Leaves alternate, cuneato-oblong, very acute, almost aristate, the young ones woolly at their base within, and hence the specific name of "*barbulata*." That character disappears in the older portions of the plant. Flowers solitary sessile, from little branches with rosulate leaves. Calyx of five, concave, reddish sepals, as long as the tube of the corolla. Corolla monopetalous, white: tube short: limb of five, rounded-cuneate, spreading, slightly crenated lobes. Stamens in the sinuses of the corolla. Filaments broad, white, almost petalloid, bearing a drooping yellow anther of two almost globose lobes, opening transversely, and bearing an awn on the lower valve. Ovary ovate, with a thickened ring at the base, three-celled, few-seeded (four or five in each cell) attached to a central placenta. Style as long as the tube of the corolla. Stigma of three small spreading rays. We have several times received from the United States flowering tufts of this very small shrub; but although they have been placed under different kinds of treatment, both in the open air and under protection, we have not yet succeeded in keeping them long alive. Dr. Asa Gray informs us that the shrub grows in the warm "pine-barrens" of New Jersey, in low but not wet places, generally on little knolls, fully exposed to the sun, in a soil of pure sand mixed with vegetable mould. We have examined the soil in which it grows, which we find no difficulty in imitating, and by attention the proper degree of moisture and temperature can be maintained; but as it has not thriven under our care, we infer that the want of success is owing to some peculiarity in its nature, together with the difference between the climate of this country and that of its native locality. One thing to be noticed is that our imported plants have certainly been very old, having (comparatively) long wiry roots like the old roots of a heath. It is probable that our cultivation might meet with better success if young plants could be procured, either from cuttings or from seeds.—*Bot. Mag.*, t. 4592.

166

DENDROBIUM VILLOSULUM. *Wallich*. A handsome Indian epiphyte, with rich orange-coloured flowers and rough stems. Flowers in June. Introduced by the Honourable the East India Company. (Fig. 166.)

When Dr. Wallich's vast accumulation of botanical records was, by the great and wise liberality of the East India Company, dispersed through all civilised lands, this plant was a mere fragment, without any one thing to show that it was a Dendrobe at all, beyond its peculiar habit. In the May of 1851 Mr. Loddiges produced it in flower; and we are

now enabled to show that it is not only really a Dendrobium, but one of a most remarkable and brilliant nature. It was imported from Tillicherry.

At the end of long slender stems, clothed with short black hairs, appear rich orange-coloured flowers in pairs. Their sepals and petals are linear, concave, obtuse, curved like so many horns, the petals being broader at the base than the sepals, and the lateral sepals forming a very short obtuse chin. The lip is linear-lanceolate, 3-lobed, the lateral lobes being extremely short, with three wavy elevated lines running through the middle lobe from end to end. The plant is near Wallich's *Dendrobium angulatum*, with which it may be contrasted by the following character :—

D. villosulum (Endendrobium) caule erecto nigro-villoso, foliis linearibus acutè et obliquè bilobis, pedunculis bifloris, sepalis petalisque acuminatis recurvis obtusis lateralibus in mentum breve cornutum connatis, labello lineari-lanceolato trilobo 3-lamellato lobis lateralibus nanis.

167

EREMOSTACHYS LACINIATA. *Bunge.* A fine showy hardy perennial from the Caucasus, with large yellow flowers. Belongs to Labiates. (Fig. 167.)

Radical leaves deeply pinnatifid with oblong-lanceolate or linear lacerated segments. Flowering stem 4-6 feet high, bearing whorls of large yellow flowers, seated in shaggy white calyxes, and supported by sessile blunt broad many-lobed green bracts. It is a common inhabitant of the eastern side of Caucasus, and of the adjoining countries, where it is found on dry hills. Its great fleshy roots are evidently adapted to such situations only. In a wild state it is not half the size of the cultivated plant, nor are its leaves half the breadth : but at the same time the flowers seem to be larger and more conspicuous. The plant appears intended by nature to resist even a Persian summer. The accompanying figure was made in the Garden of the Royal Horticultural Society, where it had been raised from seeds received from the Imperial Botanic Garden at Petersburgh. It proves to be a hardy perennial, with large spindle-shaped roots, and a stem from four to six feet in height. It is rather difficult to cultivate in the open border on account of the large fleshy roots suffering in winter from excess of moisture, but it succeeds tolerably well if grown in pots during the winter, and kept nearly dry in a cold pit or frame. It thrives in a light rich sandy loam, and flowers in May or June. It is only to be increased by seeds, and the plants are two or three years before they bloom. Care must be taken that, in potting or planting, one-third of the fleshy roots are left above ground, otherwise they soon perish.

PITCAIRNIA MONTALBENSIS. *Linden.* A handsome scarlet-flowered hot-house perennial, belonging to the Natural Order of Bromeliads. Native of New Grenada. Introduced by Mr. Linden.

In the *Allgemeine Gartenzeitung*, May 3, 1851, this fine plant is said to be of Mexican origin, having been discovered by Mr. Linden's collectors Funk and

Schlim. But as those travellers were employed in New Granada, the statement seems to be a mistake. It has long linear-lanceolate leaves, which are smooth on both sides and shining, and spiny-toothed at the base; the scape is as long as the leaves, covered with a fine wool as well as the slender bracts. The spike is about three inches long, the corolla one and a half to two inches long, and scarlet-red.

NEPENTHES RAFFLESIANA, VAR. NIGRO-PURPUREA. *Masters.* Another very distinct supposed form of *N. Rafflesiana,* but differing from the type so much that it may possibly turn out to be a new species. The pitchers are shorter and proportionately in every way smaller than those of *N. Rafflesiana,* from which it is also wholly different in colour, and in the markings of the pitchers. It is from Borneo, and an introduction of Mr. Bull's.

Leaves leathery, glabrescent, and acute at both ends, venation obscure and remote, a rather long-channelled stem-clasping stalk. The bag-shaped pitchers measure about six inches by two and a half, and are of a purplish-brown colour with a few paler spots; prominent toothed wings; mouth obliquely ovate; lid spreading, purple, mottled on the under surface, measuring two inches by one and three-quarters. Quite different from any other Nepenthes.—*Gardener's Chronicle,* N.S., vol. xviii., p. 425.

EURYBIA ALPINA. A hardy evergreen shrub, from New Zealand, belonging to the Order of Composites. Flowers dirty white. Introduced by Messrs. Veitch. (Fig. 168, a diminished sketch; *a*, a cluster of flowers of the natural size.)

E. alpina (Argophyllæa) fruticosa densa, ramis angulatis subtomentosis, foliis alternis petiolatis coriaceis oblongis acutis dentatis supra glabris subtus pallidis adpressè tomentosis, capitulis densè paniculatis, involucris villosis tomentosisve.

In this instance we have a further proof of the hardiness of some of the evergreen Australian vegetation, especially in the Order of Composites. *Swammerdamia antennifera* is now becoming a common evergreen; and Messrs. Veitch produced this in full flower, or rather past flower, at a May meeting of the Horticultural Society, from the open nursery at Exeter. It forms a stout bush, with angular strong branches, and firm, leathery, evergreen leaves, from 2 to 2½ inches long, deep green on the upper side, pale and somewhat hoary beneath. They are much concealed by the large quantity of dirty white flowers, which as they go off greatly diminish the neatness of the plant, especially as the florets drop off and make way for a dirty brown pappus, which becomes very conspicuous.

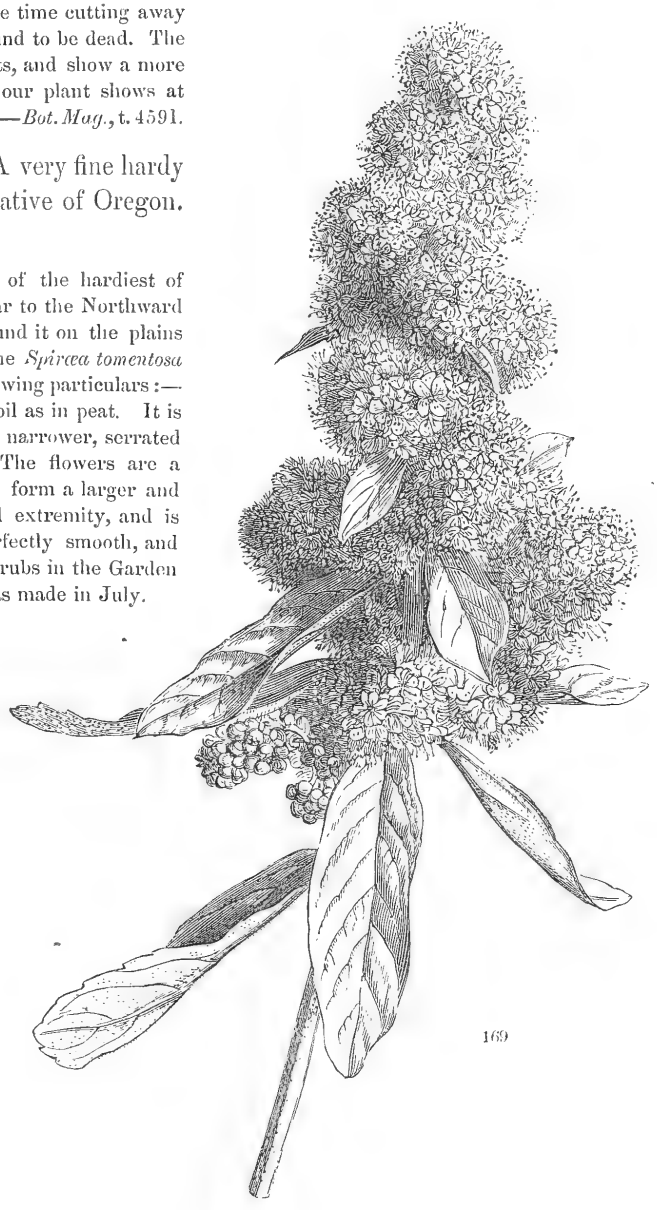
We find this plant among dried specimens collected in New Zealand by Mr. Bidwill, at the elevation of 8000 feet above the sea in the northern island. He describes it as a shrub 6 feet high, and believes it to be the same as a coast plant of which he also sent home specimens. The latter has larger, thinner, longer leaves, much more tapering to the base; but may nevertheless be only a lowland form. The species is nearly allied to *E. furfuracea,* a New Zealand species with scurfy entire leaves, and also to the New Holland *E. argophylla* or Musk Tree.

PITCAIRNIA EXSCAPA. *Hooker.* A handsome hot-house perennial, with crimson flowers, belonging to Bromeliads. Native of New Grenada. Introduced by Messrs. Jackson and Son.

168

This very curious and rather handsome *Pitcairnia* was detected, as an infant plant, among some Orchidaceæ purchased from New Grenada, by Mr. Jackson of the Kingston Nursery, Surrey. They were carefully reared, and our figure represents two of them in a flowering state. The species is remarkable for the great length of the very attenuated leaves, and no less so for the sessile and densely bracteated spike of red flowers. I can nowhere find such a species described. It belongs, as far as the structure of the flowers is concerned, to the same group as *Pitcairnia suaveolens,* Lindl., figured in Botanical Register, t. 1069, that is to say, where the petals have a certain twist, occasioning their apices to point one way, and there is, moreover, a curvature there, giving a galeated character to these petals. We possess, from New Grenada, two other stemless and scapeless (or nearly so) *Pitcairnias,* and there, too, the bracteas

are mixed with black spines : but in those the spines themselves bear short spreading spines on the sides. Stemless or nearly so. A kind of pseudo-bulb is formed at the base of the plant, sheathed by the dilated, dark brown bases of the outer leaves. The leaves, therefore, may be said to spring from the root, and are, many of them, full three feet long, like those of a coarse *Carex*, linear, carinated externally and gradually attenuated into a very long narrow point, quite entire, glabrous, a part of the upper margin of the sheath being alone ciliated, rather strongly so. From the centre of these leaves appears a nearly sessile, ovate head of flowers, in part concealed by numerous bracteas, imbricating each other ; the inner ones longer, narrower, yellowish-green, glabrous, the outer brown, broader, and hairy or cobwebby : these bracteas are intermingled with a few strong, acicular, almost brown spines. Calyx quite concealed by the bracteas, yellow-green : sepals lanceolate, acuminate, hairy. Petals red, curved and galeate, bearing a notched scale at the base within. Stamens shorter than the petals. Ovary superior, trisulcate. Style elongated. Stigmas three, twisted. This plant requires a warm stove, and thrives in any kind of light open soil not retentive of moisture. Care must be taken not to water it too copiously. The old roots of this species, like those of many of its allies, after a time lose their vitality, and, by their continued increase, become a nidus of support to the succeeding young roots ; but in cultivation it is advisable occasionally to turn the plant out of the pot and divest it entirely of the old roots, at the same time cutting away the lower part of the caudex, which will also be found to be dead. The plant on being repotted will soon emit young roots, and show a more vigorous growth. It is increased by offsets, and our plant shows at this time the appearance of producing perfect seeds.—*Bot. Mag.*, t. 4591.



169

SPIRÆA DOUGLASII. *Hooker.* A very fine hardy shrub, with deep rose-coloured flowers. Native of Oregon. Belongs to Roseworts. (Fig. 169.)

This brilliant addition to our Shrubberies is one of the hardiest of the North American Flora, naturally growing as far to the Northward as the straits of St. Juan de Fuca. Douglas found it on the plains of Oregon. In general appearance it resembles the *Spiræa tomentosa* of the United States, from which it differs in the following particulars :— It grows as well, if not better, in common garden soil as in peat. It is twice as robust a plant. Its leaves are longer, narrower, serrated not crenate, and white not brown underneath. The flowers are a deeper rose colour, and therefore handsomer, and form a larger and closer panicle, which always terminates in a round extremity, and is not taper-pointed. Moreover the carpels are perfectly smooth, and not buried in long down. It is one of the best shrubs in the Garden of the Horticultural Society, where our drawing was made in July.

ACACIA GRANDIS. *Henfrey.* A New Holland shrub, of the Leguminous Order, from the Swan River Colony. Flowers in yellow balls, in the spring.

This seems to be in no respect different from Mr. Bentham's *A. lasiocarpa*, published years ago, as far as can be ascertained from the materials laid before the public. It may be described in popular terms as a good variety of *A. pulchella*, with larger and more copious balls of flowers.

CATTLEYA (LABIATA WARSCEWICZII) SANDERIANA. *H. G. Reichenbach, f.* Any species equal to, or that even comes near, the old *C. labiata*, if possessing any distinctive character, is sure to be hailed with acclamation by lovers of Orchids. Nor is this to be

wondered at, considering the unsurpassed beauty of *C. labiata*, which, although it has now been in the country over sixty years, is still very scarce, and so eagerly sought after that it fetches exorbitant prices. The new species, we understand, has been flowered by W. E. Brymer, Esq., of Dorchester. From the description it must indeed be a splendid flower; the following is Professor Reichenbach's description :—

Flowers several in a raceme. Sepals and petals broad, of the finest cleanest light purple. Anterior blade of the lip wavy, with numerous dark purple blotches on a brighter ground, giving it a velvety appearance. Two fine eye-blotches are placed on the mouth of the tube, clear gamboge colour inside, whitish outside. The middle line of the disk is narrow, brown, with white lines or nerves. Column very strong and firm.—*Gardener's Chronicle*, N.S., vol. xviii., p. 8.

HEDYCHIUM GRACILE. Although this plant is not new, having been brought to England in the early part of the century, still it is so little known and so distinct in its general appearance that it is worth notice. The specimen from which the accompanying description is given, we understand flowered at Kew in September, 1881. It comes from the Khasia and Himalaya Mountains. Most likely it will require ordinary greenhouse treatment, in common with other plants that inhabit districts in that elevated part of the world.

Stem slender, two to three feet high. Leaves five to nine inches long by two to three inches broad, acuminate, base acute, narrowed into a petiole one-half to three-quarters of an inch long. Sheath long, compressed. Spike five to seven inches long, one and a half to two and a half inches in diameter, exclusive of the stamens; flowers suberect, white with the filament red. Bracts one-half to three-quarters of an inch long, slender, cylindric, obtuse, glabrous; inner bract shorter, tubular, very membranous. Calyx tubular, membranous, shorter than the bracts, mouth obliquely truncate. Corolla tube two-thirds to three-quarters of an inch long; lobes three, filiform, longer than the tube. Staminodes (or inner petals) linear, acute, shorter than the petals. Lip linear oblong, cleft into two semi-lanceolar acute diverging lobes. Stamen projecting one to one and a half inches beyond the perianth tube; filament convolute, red; anther linear. Stigma turbinate, truncate. Ovary hairy, subglobose.—*Botanical Magazine*, 6638.

RHAMNUS HIRSUTUS. *Wight and Arnott.* A hardy deciduous shrub from the mountains of India. Flowers green; appearing in June. (Fig. 170.)

This shrub is thus described by Dr. Wight. "Young branches pubescent, spinescent, older ones glabrous, with a white cuticle; leaves opposite or alternate, ovate, or oblong lanceolate, with a short sudden acumination, serrulated, membranaceous, nearly glabrous above; beneath hairy, particularly on the nerves and veins; pedicels from the base of the young shoots, 3-6 together, pubescent, as long as the petiole: calyx 4-cleft; petals obovate, obtuse, entire flat; ovary 2-3 celled; styles 2-3, connected to the middle, then diverging; the upper part jointed with and deciduous from the persistent lower half; fruit 2-celled; seeds plano-convex, with a deep furrow at the base on the outer convex side. A considerable shrub, rather extensively distributed on the Neilgherry hills, but not so common on the higher ranges as lower down; it usually presents a rather scraggy appearance. It is to be met with in flower at almost all seasons." To this we can only add that the species is extremely like *Rhamnus catharticus*, from which, however, its hairiness readily distinguishes it.

CORIARIA NEPALENSIS. *Wallich.* A trailing, hardy, Himalayan, deciduous bush, with clusters of brownish-red flowers. Belongs to the neighbourhood of Ochnads. (Fig. 171.)

According to Wallich this is either a shrub eight to ten feet high, or a small tree, twelve to sixteen feet high, in its native mountain valleys of Nepal and Deyra Doon. In this country it is too much injured by frost to acquire any such stature; but it is nevertheless hardy enough, sending up stout four-cornered shoots from its roots if the old stems perish. Its leaves are smooth, 3-5 nerved, oblong, acute, in opposite pairs, but placed in a distichous order. The flowers appear in May, upon leafless branches, in short imbricated drooping spikes. They consist of five ovate, imbricated, acute sepals, as many small scale-like petals, ten hypogynous stamens, and five lenticular carpels placed obliquely on a conical torus or gynobase, with five free linear spreading stigmas. According to Royle (Illustrations, p. 165) this plant has given its name *Mussooree* to the Nepal province now so called, where it is most abundant at an elevation of from 5000 to 7000 feet.

Its succulent fruits are, he says, frequently eaten in the hills, though those of the common Spanish species (*C. myrtifolia*) are considered poisonous, when taken in any quantity. Griffith, who found it on the Bootan Mountains, merely says that it is a small bush (*fruticulus*) with long weak branches, crimson anthers, and stigmas looking something like a *Xanthoxylum* which he calls "*Geeree nuddee.*" It occurred at the height of from 3400 to 6000 feet. His remark about its resemblance to *Xanthoxylum* is curious, and assists in establishing the claim of *Coriaria* to a place in the *Rutal* alliance, where we have formerly stationed it.

170

171

RANUNCULUS SPICATUS. *Desfontaines.* (*alias* Ranunculus Olyssiponensis *Persoon.*) A yellow-flowered hardy perennial, with the aspect of a common meadow Crowfoot. Native of Algiers. Flowers in April.

In the too great admiration of tropical botany, the hardy herbaceous plants of cooler regions are often lost sight of. The present Ranunculus has a place probably in few gardens, yet would prove an ornament to any, with its large showy and peculiarly glossy bright flowers, which moreover appear as early as April. It was first detected and described by Desfontaines as a native of Algiers, where it appears to be very common on the hills. We possess specimens also from Gibraltar, gathered by our friend Dr. Lemann. Like other species of Crowfoot, it is liable to vary in size and in the outline of its leaves: but our figure well represents the ordinary appearance of the species. The specific name is best understood at a later period, when the receptacle of capsules runs out in a long cylindrical spike. Root grumose, consisting of a dense cluster of fusiform fleshy fibres or tubers mixed with many capillary roots. Stem a foot or more high (less in its wild state), hirsute with short spreading soft hairs. Leaves more or less hairy: the lower ones on long

petioles, reniformi-orbicular, three, the lowermost five-lobed; lobes cuneate, generally again three-lobed and incised or toothed; upper ones nearly sessile, wedge-shaped, deeply three-lobed, and incised, the lobes linear-cuneate. Flowers one to six upon a stem, on hairy, terete peduncles. Calyx of five ovate-oblong spreading hairy-herbaceous sepals. Corolla two inches broad in cultivation, of five large, oblong, very glossy yellow spreading petals, with flabelliform, orange-coloured spots at the base. Stamens numerous, surrounding an oblong head of young carpels, which eventually lengthens into a narrow cylindrical spike.—*Botanical Magazine*, t. 4585.

Tulipa primulina. *Baker.* This plant was found by Mr. H. J. Elwes, in the Aures Mountains three hours west of Batna, in May, 1882, and he gives the following account of it: "It grows on the ridges and open glades in the cedar forest, at an elevation of about 6,000 feet, and flowers in May. It is extremely sweet-scented. I previously knew of the existence of such a plant from a drawing and specimen collected by Mr. Hammond at Elkantara, about thirty miles farther in the interior than the place where I found it. It seems quite distinct as a wild plant from *T. fragrans*, but I do not know how long it may remain so under cultivation. It was the only good bulbous plant I found in the Djibel Aures, where neither Orchids nor Ferns, and very few bulbs, seem to exist."

Bulb ovoid, an inch long. Stem two inches long below the surface, under half a foot long above it, one flowered. Leaves four to six, linear, green, glabrous, channelled down the face. Peduncle glabrous, two or three inches long. Flower very fragrant. Perianth infundibuliform, pale primrose-yellow, one inch long; outer segments lanceolate, one-sixth of an inch broad, tinged with bright red all over the back; inner oblong one-third of an inch broad at the middle. Stamens half as long as the perianth; anthers bright orange-yellow, oblong, one-eighth of an inch long; filiments rather lighter in colour, flattened, with a dense tuft of hairs at the base. Ovary ampulliform, narrowed gradually to the apex; stigma minute.

Allied to *T. cretica* and *T. Lownei*. Differs from *T. Australis* by its pale primrose-yellow flowers and strong scent. —*Gardener's Chronicle*, N.S., vol. xviii., p. 8.

Masdevallia Arminii. Masdevallias, like several other genera of Orchids, have of late been overdone, a good many having been introduced that have not much to recommend them, excepting the singularity in the form of their flowers. We have not seen the species under notice, but from what we hear of it, still further confirmed by Professor Reichenbach's description, it appears to be a fine thing. Most likely it will succeed under treatment similar to the generality of other species—that is, moderate heat and plenty of root moisture.

Much in the way of *M. Wageneriana*, yet the flower is a good deal larger, fine rose colour tinged with purple. A nice companion for *M. Estradæ*, and *M. ludibunda*. It appears to have first been discovered by Schlim.—*Gardener's Chronicle*, N.S. vol. xviii., p. 102.

Saxifrage Camposii. Now when herbaceous and Alpine plants suitable for rock-work are again receiving the attention which they deserve, the Saxifrages hold a prominent place. They are compact in habit, occupying little room, and increasing faster than most things. This, coupled with a profuse habit of blooming, commends them to all lovers of hardy flowers. *S. Camposii* ranks amongst the best of the dwarf-growing large-flowered section. The description is from plants growing at Kew, where it has long been cultivated. It comes from Spain.

Densely tufted, bright green, forming large patches. Leaves variable, a quarter to half an inch in diameter, flabellately three to five cleft, with simple obtuse or subacute teeth, or broader and deeply three to five lobed, with the lobes three or more toothed; petiole one-half to one inch long. Flower-stems three to four inches high, rather stout, glabrous or sparsely glandular; peduncles and pedicels glandular-pubescent, slender. Flowers corymbose, two-thirds of an inch in diameter, inclined. Ovary nearly globose, densely glandular. Sepals oblong-lanceolate, subacute, longer than the ovary. Petals spathulate, white, twice as long as the stamens. Anthers yellow. Styles slender; stigma oblong-capitate.—*Botanical Magazine*, 6640.

THE PALLID CATTLEYA.
(CATTLEYA PALLIDA.)

[PLATE 59.]

THE PALLID CATTLEYA.

(CATTLEYA PALLIDA.)

A Fine Stove Epiphyte, from the WEST OF MEXICO, *belonging to the Natural Order of* ORCHIDS.

Specific Character.

THE PALLID CATTLEYA. Pseudobulbs long, furrowed, one-leaved. Leaves wavy, oblong, blunt, emarginate. Flowers solitary, growing out of a very large spathe. Sepals lanceolate, petaloid. Petals oblong, wavy, four times as broad. Lip oblong, emarginate, rather wavy, hooded at the base for a little way.

THIS is the Cattleya mentioned in Hartweg's Journal (*Journal of the Horticultural Society*, vol. i., 183) as having been found near Tepic, beyond which that document gives no information. It is nearly related to the Moss Cattleya, from which it differs in having very long furrowed pseudobulbs and flowers, without any indication of coloured veins. The flowers are larger, too, than usual, the lip much less wavy, and the leaves weak and undulating instead of stiff and firm.

It is not so handsome as the generality of the species of this favourite genus; but it is nevertheless a fine ornament to the Orchid house.

Since this Cattleya was first introduced there has been a marked change in public taste in the matter of colour in flowers. Time was when comparatively few people could appreciate the chaste beauty of soft, delicate colours. We see this change forcibly illustrated in bouquets and other arrangements of cut flowers, as well as in the out-door flower garden, where the use of subdued shades is usually more prevalent than in times past. And it is equally desirable that we should have a sufficient number of soft

colours in a collection of Orchids, especially since there have been such large additions of species possessing the opposite of intensely deep shades. The genus Cattleya, and their near allies the Lælias, are especially prolific in bright, vivid colours; an example of *C. pallida* blooming besides one of the deep shaded varieties of *C. Mossiæ* or *C. Warnerii*, independent of its merits, would materially enhance the beauty of the more deeply tinted kinds. *C. pallida* has always been very scarce. A limited number of plants made their appearance when it was first introduced, and it seems that few have been imported since. It is a moderate grower, succeeding in a temperature such as is suited to most of the Mexican species of Cattleya.

THE BOX-LEAVED CANTUA.
(CANTUA BUXIFOLIA.)

[PLATE 60.]

THE BOX-LEAVED CANTUA.

(CANTUA BUXIFOLIA.)

A Beautiful Half-hardy Shrub, from PERU, *belonging to the Natural Order of* POLEMONIADS.

Specific Character.

THE BOX-LEAVED CANTUA. Leaves oval, acute, smooth or downy, hardened at the base; sometimes three-lobed or otherwise lobed. Panicles loose, downy, corymbose. Calyx downy, blunt at the base, more than thrice as short as the corolla. Corolla a long tube with a concave limb and obcordate segments. Style projecting.

Cantua buxifolia: *Lamarck Dict.*, l. 603. *Bentham in De Cand. Prodr.*, 9, 321. *Bot. Mag.*, t. 4582; *alias* Periphragmos dependens, *Ruiz and Pavon, Fl. Chilensis*, II. 18, t. 133.

SINCE the introduction of the Fuchsia and the China Rose, our gardens have received nothing so remarkable as this plant. Long since made known to botanists, and sought for by every collector that visited the temperate parts of South America, it was at last obtained by Mr. W. Lobb, from the mountains of Peru, for Messrs. Veitch of Exeter, who flowered what is now represented. The blossoms appear in profusion in the month of May, and are fully four inches long, with a crimson and yellow tube, vivid sanguine in the bud, and rich rose colour when expanded, with a lighter tint in the inside.

In his enumeration of Polemoniads, in De Candolle's Prodromus, Mr. Bentham has reduced to this species the *Cantua tomentosa* of Cavanilles; and Sir W. Hooker has gone farther, in the *Botanical Magazine*, by adding as synonymes the *Cantua ovata* of Cavanilles, and *uniflora* of Persoon. We, however, believe that these are so many distinct species.

It is doubtless true that *Cantua buxifolia* is a variable plant, more or less downy, and having flowers either crimson and yellow as this is, or white and yellow, or perhaps merely yellow. All these forms may be expected to appear from the same batch of seeds. In fact, among Mr. W. Lobb's dried specimens, no fewer than six different numbers are occupied by the forms of the same species, this *C. buxifolia*. But the materials before us lead to the inference that other forms of the genus exist in temperate South America, which are specifically distinct from *C. buxifolia*, and from each other.

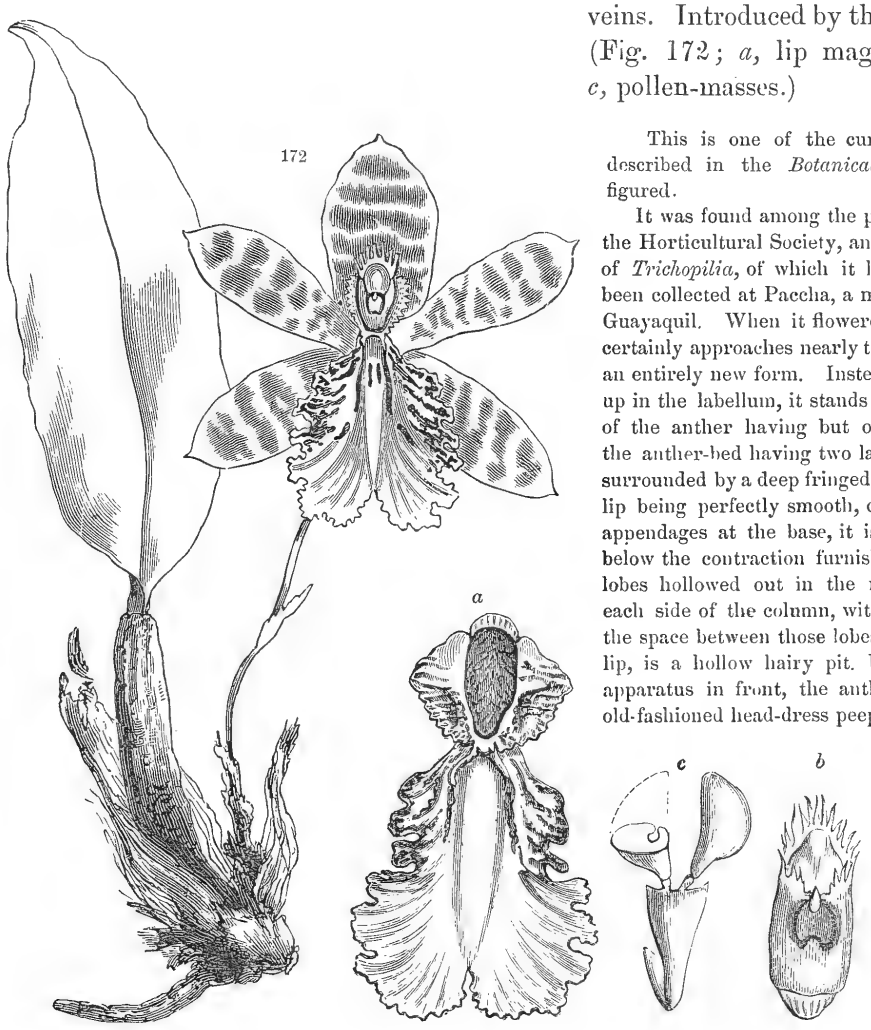
In the first place we have a Peruvian plant collected by Dombey, and distributed by the Paris Herbarium, under the name of "C. grandiflora, No. 382." This, which is nearly entirely glabrous, has much shorter flowers, and blunter leaves than *C. buxifolia,* the calyx being almost half as long as the corolla tube; it is probably *C. ovata.*

Among Bridges' last Bolivian Collection, is a shrub with leaves and calyxes covered all over with a viscid glandular pubescence, an extremely narrow crimson streaked corolla and calyx, the latter tapering to the base, and an inconsiderable limb, shorter than the projecting stamens. That we presume to be *C. tomentosa.*

Finally we have in the same collection, a species with pubescent leaves, with a great tendency to become round at the point, flowers growing singly at the end of short lateral branches, and glabrous calyxes, almost half as long as the tube of the yellow corolla; and to this the name of *C. uniflora* seems to belong.

GLEANINGS AND ORIGINAL MEMORANDA.

HELCIA SANGUINOLENTA. *Lindley.* A Peruvian epiphyte of the Orchidaceous order, with greenish flowers banded with brown, and a white lip marked with broken crimson veins. Introduced by the Horticultural Society. (Fig. 172; *a*, lip magnified; *b*, column do.; *c*, pollen-masses.)



This is one of the curious and little-known Orchids described in the *Botanical Register* (1845), but never figured.

It was found among the plants collected by Hartweg for the Horticultural Society, and was supposed to be a species of *Trichopilia*, of which it has entirely the habit. It had been collected at Paccha, a miserable village in the Andes of Guayaquil. When it flowered it was seen that, although it certainly approaches nearly to that genus, yet it is in reality an entirely new form. Instead of its column being rolled up in the labellum, it stands erect and clear of it; instead of the anther having but one cell, it has two; instead of the anther-bed having two lateral lacerated processes, it is surrounded by a deep fringed border; finally, instead of the lip being perfectly smooth, continuous, and destitute of all appendages at the base, it is contracted about the middle, below the contraction furnished with a pair of thick fleshy lobes hollowed out in the middle, and standing erect on each side of the column, without however touching it; and the space between those lobes, forming the very base of the lip, is a hollow hairy pit. Upon looking at this curious apparatus in front, the anther and column look like an old-fashioned head-dress peeping over one of those starched high collars, such as ladies wore in the days of Queen Elizabeth; or through a horse-collar decorated with gaudy ribbons; and this has led to the name, which has been fashioned out of Helcium, a word said to mean the collar of a horse, though, considering its obvious derivation, one would rather have imagined

it to signify his traces. The relationship of the plant is evidently greatest to *Trichopilia;* it is, however, also an associate of *Aspasia*, from which it differs in not having the lip united to the column, and in its deep-fringed anther-bed.

Spiræa laxiflora. *Lindley.* A very pretty shrub from Nepal, with white flowers appearing in July. Belongs to Roseworts. Introduced by the Horticultural Society. (Fig. 173.)

173

This very distinct shrub was first described in the *Botanical Register* for 1839. It was there stated to resemble *S. vacciniifolia* in the form of the leaves, and the colour of their under side, but they are long-stalked and rather glaucous above, while the flowers are arranged in large, loose, straggling panicles; the petals are, moreover, reflexed. The species differs from *S. fastigiata* of Wallich, in the leaves having much longer stalks, being more ovate, with crenatures rather than taper-pointed serratures, and in the panicles being far more lax. It is perfectly hardy, and being much more dwarf than most of the shrubby Spiræas, is well adapted for the front of shrubberies or for decorating parterres of a mixed nature.

Impatiens Sultani. This plant has been named, by Sir J. D. Hooker, in compliment to the reigning Sultan of Zanzibar, in which country we understand it was discovered by Sir John Kirk, K.C.M.G., the Political Resident there. It will no doubt require to be grown in a warm house. Its flowers are scarlet, or bright red, in size and appearance not unlike the well-known annual *Phlox Drummondii;* they seem to be produced very freely on short foot-stalks, from the axils of the leaves of the young shoots. It is a very pretty species, and promises to be a handsome addition to our hothouse flowering plants.

A glabrous, erect, branched, rather succulent herb; stem and branches stout, terete, green. Leaves two to three inches long, ovate-lanceolate, acuminate, pale green. Flowers solitary and axillary, or two or three on very short peduncles, one to one and a half inches in diameter; bracts minute. Sepals small, lanceolate, acuminate. Petals quite flat, scarlet; dorsal (or standard) obovate-orbicular retuse, rather smaller than the others; lateral petals (or wings) cleft to the base into obovate-cuneate equal flat lobes. Lip not half the length of the petals, lanceolate in outline, suddenly contracted into a slender up-curved spur as long or twice as long as the petals.—*Botanical Magazine*, 6643.

Nepenthes atro-sanguinea. Cultivators of pitcher plants are indebted to Mr. B. S. Williams, of Holloway, for several new hybrid varieties of undoubted excellence. The plant under notice is, we understand, like some others he has been fortunate in obtaining, of American origin. The pitchers, which are about six inches in length, are extremely high-coloured, possessing more of the dark crimson red shade than *N. sanguinea;* the yellow spotting which is dispersed over the surface adds to their appearance. The lower portion of the pitchers is considerably inflated, narrower in the upper half; the wings are fringed, moderate in breadth; lid somewhat erect, and prettily marked.

Calycanthus occidentalis. *Hooker.* A hardy deciduous shrub, with brown, slightly scented flowers. Native of California. Introduced by the Horticultural Society. (Fig. 174.)

Raised from seed sent home by Hartweg, from California, under the name of *Calycanthus macrophyllus*, and said to be a shrub six feet high, growing along rivulets near Sonoma, California. A pale green bush; leaves oblong, acuminate,

smooth, and coloured alike on both sides, with short stalks; obtuse or slightly cordate at the base, slightly scabrous above. Flowers solitary, brownish-red, larger than usual, with a subacid unpleasant odour. Bracts numerous, subulate, revolute, green. Sepals and petals linear-lanceolate, obtuse, the outer spreading or even rolled back, the inner erect, few, of unequal lengths, incurved, completely concealing the stamens. This species is rather tender, with a handsomer foliage than other "Carolina Allspices," but without their delicious fragrance. It is more an object of botanical than horticultural interest. It flowers in June and July.—*Journal of Hort. Soc.*, vol. vi.

SELAGINELLA GRANDIS. *Moore.* At the second fortnightly meeting in May, 1882, of the Royal Horticultural Society, this fine Selaginella was exhibited by Messrs. Veitch, of Chelsea, under the provisional name of *S. platyphylla,* where it received a First Class Certificate, an honour which the plant was highly deserving of, for it is one of the most distinct and beautiful of the family. Its broad dense fronds curve over towards the extremities, giving them the appearance of massive ostrich feathers. It comes from Borneo, where it was collected by Mr. Curtis, consequently it will no doubt require a considerable amount of heat to grow it satisfactorily. The beauty of the fronds is still further enhanced by the long elegant fertile appendages produced at their extremities.

Stem erect from a creeping, rooting base, as thick as a straw, six to twelve inches high, obscurely tetragonal, compressed, clothed with ovate-acuminate, serrulated leaves, the lateral ones becoming longer upwards, and merging

into the larger leaves of the fronds. Fronds triangular-ovate, recurved, of a clear grass-green above, paler beneath, eight to ten inches long, dichotomously branched with numerous (twelve or more) successive furcations, the principal branches about seven, the ultimate ones about four and a half lines wide. Leaves close-set, spreading, fixed at the posterior angles of the quadrangular rachis, oblong, subfalcate, unequal at the base, where the anterior side is larger, rounded, and prominently ciliate, the rest of the margin entire, distinctly one-nerved, the nerve prominent beneath; smaller intermediate leaves ovate, cuspidate, serrulate, carinate, investing the two anterior angles of the elevated rachis, the base decurrent on the outer side. Amenta usually in pairs, terminating the ultimate branches, slender, one to one and a half inches long, tetragonal, the bracts ovate-acuminate, carinate, with a dark green keel, the margins serrulate. —*Gardener's Chronic'e*, N.S., vol. xviii., p. 40.

Tulipa Didieri. The present race of garden Tulips, the work of many generations of Dutch and English hybridisers and seedling-raisers, is well known to every one at all acquainted with gardening; but not so the many grand species now in cultivation, which, although only known to the comparatively few who make a speciality of hardy bulbous plants, cannot fail to be fully appreciated as their acquaintance becomes more general. Bright and effective as many of them are, the subject of our notice may claim a position besides the best. In general appearance it is like *T. Gesneriana*, another very handsome species, but, from a cultural point of view, by the large deep purple blotch edged with yellow in the centre of the flower, it is much more effective. It is found indigenous in Savoy and Italy, and flowered at Kew in the open air in May, 1881.

Bulb ovoid, an inch in diameter. Stem erect, one-flowered, a foot or a foot and a half long. Leaves three or four to a stem, rather glaucous, the lower oblong-lanceolate, half a foot long, one and a half to two inches broad, the others about an inch broad. Perianth erect, campanulate, bright crimson, two to two and a half inches long; segments an inch and a quarter to an inch and a half broad, with a large cuneate purple blotch with a yellow border covering the whole claw to a height of nearly an inch; three outer segments oblong, subacute; three inner rather broader, obovate-oblong, cuspidate. Stamens about an inch long; anthers about as long as the glabrous filament. Pistil a third as long as the perianth; stigmas large, deeply channelled. Scent of the flower very faint. —*Botanical Magazine*, 6639.

Pinus Bungeana. This interesting Pinus (the Lace-Bark Pine of China) produced cones in 1882 in Mr. Kinghorn's Nursery, at Richmond, where we saw it during the summer. The plant in question is a healthy specimen from ten to twelve feet high. In its native country it is represented to attain a medium height. The branches are slender in appearance, not unlike the Weymouth Pine (*Pinus strobus*); the smooth bark has a greyish hue. It belongs to the three-leaved section, leaves about three inches long, pale green in colour. An interesting species, remarkable on account of the outer bark peeling off in flakes—like that of the Birch—showing the colour of the inner bark, which is a light greyish-white. Dr. Masters thus describes it:—

Leaves in bundles or tufts of three, with very short deciduous sheaths at the base; they are from three to three and a half inches long, pale bright green, rigid, somewhat three-angled, owing to the prominence of the midrib above. On cross section a double layer of hypoderm cells is seen, with resin canals beneath the surface (peripheral). Cones lateral, two to two and a half inches long, ovate ovoid obtuse, scales with a flat four-sided top marked with a transverse ridge, from whose centre protrudes a small hooked prickle.—*Gardener's Chronicle*, N.S., vol. xviii., p. 8.

THE HUMBLE PLEIONE.
(PLEIONE HUMILIS.)

[PLATE 61.]

THE HUMBLE PLEIONE.

(PLEIONE HUMILIS.)

An Alpine Herbaceous Plant, from NORTHERN INDIA, *belonging to the Natural Order of* ORCHIDS.

Specific Character.

THE HUMBLE PLEIONE.—Pseudobulbs flask-shaped, furrowed. Bracts oblong-lanceolate, petaloid, longer than the ovary, but afterwards shrivelling and drawn back, leaving the peduncle naked. Sepals and petals linear-lanceolate, spreading, flat. Lip hooded, emarginate, fringed at the edge, and with six distant fringed veins, between which as many naked veins are interposed.

Pleione humilis: *D. Don, Prodromus Floræ Nepalensis*, p. 37; *alias* Epidendrum humile: *Smith, Exot. Bot.*, t. 98; *alias* Cymbidium humile: *Smith in Rees' Cyclopædia; alias* Cœlogyne humilis: *Lindley, Collectanea Botanica*, p. 37.

THIS beautiful gem was originally found by Dr. Buchanan Hamilton in Upper Nepal, among moss, on the trunks of trees. Mr. Griffith met with it on the Bootan mountains in similar situations, in dense forests towards Santagong, at the elevation of 8,000 feet above the sea ("Itinerary Notes," p. 158). Since then it has been sent from the Khasijah hills to Messrs. Veitch, by Mr. Thomas Lobb, who found it at a place called "Sanahda," at the height of 7,000 feet.

It differs from the two species figured at our Plate 53, in the form of its pseudobulbs, in the narrowness of the sepals and petals, and especially in the long fringes that border the lip, and which also occur upon six of the veins on the inside of the lip. The bract, too, is quite different, petaloid and pale violet at first, then shrinking and shrivelling till it leaves the peduncle naked, as in our figure, remaining at the base of the peduncle, like an old-fashioned leather buskin.

The habit of these plants is so peculiar that it seems desirable to separate them from Cœlogyne, if any character can be found; and we think the membranous bracts, and strongly saccate lip with fringed veins of Pleione may be taken to offer a sufficient distinction from Cœlogyne with its horny or cartilaginous deciduous bracts, and lip merely concave at the base, with two or three continuous crests rising up from the veins. Perhaps too a more careful comparison than we have been able to make of the pollen of the two genera may furnish peculiarities of a more important kind.

At all events Pleiones constitute a group which can never be intermingled with the species of Cœlogyne proper. The following is an enumeration of the species now known:—

PLEIONE *D. Don.*

1. Pleione *maculata.* Plate 53 of this work.
2. ——— *lagenaria.* „
3. ——— *Wallichiana* (*alias* Cœlogyne Wallichiana *Lindley.*)
4. ——— *præcox* D. Don. A fine species with large purple flowers and a fringed lip.
5. ——— *humilis* of this plate.
6. ——— *diphylla;* pseudobulbis oblongis medio constrictis, foliis geminis subcoriaceis acuminatis, pedunculo flore ter longiore, bracteâ obtusâ inflatâ apiculatâ ovarii longitudine, labello obtusè trilobo emarginato, venis fimbriatis 5-7 interruptis alterâ brevi adjectâ utrinque juxta apicem.

We have specimens of this plant from Mr. Griffith, who found it on the Khasyah Mountains, in shaded rocky places at Churra: and whose memorandum appears in his Itinerary Notes, p. 44, No. 684. From this it appears that the leaves are somewhat coriaceous, and grow in pairs on the summit of oblong pseudobulbs, contracted in the middle, and spotted with purple on a green ground. The flowers are said to be very handsome, and white; the lip being stained and lined inside with violet and crimson, and decorated with from seven to nine lines of yellow fringes.

THE LODDIGES LILY.
(LILIUM LODDIGESIANUM.)

[PLATE 62.]

THE LODDIGES LILY.

(LILIUM LODDIGESIANUM.)

A Handsome Hardy Bulbous Plant, from the CAUCASUS, *belonging to the* LILIACEOUS *Order.*

Specific Character.

THE LODDIGES LILY.—Leaves close, alternate, spreading, here and there whorled, ovate-lanceolate, rather obtuse, on the under side, especially at the edge and veins, slightly downy, the uppermost gradually smaller. Raceme erect, few-flowered. Flowers drooping, two or three times as long as their stalk. Divisions of the flower rolled back.

L. Loddigesianum: *Römer and Schultes, Systema*, 7, 416. *Morren, Annales de Gand*, vol. ii., p. 363, t. 85.

THIS fine hardy bulbous plant was received by the Horticultural Society on April 3, 1842, from Mr. de Hartwiss, of the Imperial Gardens, Nikita, in the Crimea, under the name of *Lilium monadelphum*. A few months later it came from Dr. Fischer, of St. Petersburg, under the same name. Yet it is in no degree monadelphous; on the contrary, its stamens are distinct to the very base.

Lilium monadelphum was so called by Bieberstein in his account of the Caucasian flora, and described as a plant the size of *Lilium album*, with flowers of the same size and form, but yellow, and with the filaments united sometimes into a tube as long as the ovary, sometimes into a mere ring. Römer and Schultes add that cultivated plants raised from Crimean seeds grew from two to four feet high, with campanulate flowers, tubular at the base, and spreading at the point, but in no degree rolled back; the petals were quite yellow, with no spots, and the stamens were joined into a tube rather longer than the ovary. It would therefore seem clear that our plant cannot be *L. monadelphum*.

It was, however, figured under that name by the late Mr. Ker, at t. 1405 of the Botanical Magazine, and Bieberstein afterwards praised the representation as a good one. But Römer and Schultes, unable to reconcile with that author's account a plant in which the divisions of the flowers are revolute like a Turk's cap, and spotted, while the filaments are wholly disunited, proposed to call the latter, now before us, *L. Loddigesianum*, because Mr. Loddiges had first raised it from Russian seeds. In this Prof. Kunth acquiesced.

Nevertheless the Russian Botanists Fischer, Meyer, and Avé Lallement have united *L. Loddigesianum* and *L. monadelphum*, describing their plant as $3\frac{1}{2}$—$5\frac{1}{2}$ feet high, with from 1—27 flowers, and stamens united at the base, all which is at variance with our plant; at the same time they created a *L. Szovitzianum*, from Colchis, very near *L. monadelphum*, with free stamens, and flowers like wax in colour and texture. Thus far it corresponds with the plant now before us; but the above authors add that the flowers are spotted inside with dark purple, the style twice as long as the ovary, and the leaves scabrous at the edge, in which respects this disagrees. Upon the whole, therefore, we leave the name *L. Loddigesianum* as we find it, till some one shall succeed in settling the intricate synonymy of this genus, when it is probable that a great reduction of so-called species will take place.

In the meanwhile we venture to ask what difference there is between *L. Loddigesianum* and *L. pyrenaicum?* beyond size and the spotting of the flowers.

GLEANINGS AND ORIGINAL MEMORANDA.

CURCUMA SUMATRANA. This belongs to a limited genera of very singular plants, not nearly so much grown as they deserve to be. From a cultural point of view they have much to recommend them, not only on account of the remarkable appearance of their flowers, but also for their long endurance. They are all deciduous herbaceous plants, mostly habitants of hot parts of the eastern hemisphere; they succeed with ordinary stove treatment, blooming in summer, at which time their red, yellow, crimson, or a combination of these colours in the flowers, renders them conspicuous objects for many weeks. The plant under notice was introduced by Messrs. Veitch, from Sumatra, through Mr. Curtis.

Petioles six inches long, leaves bright green, nine inches long by four and a half in breadth. Peduncles two inches long, glabrous, deep red. Spike about six inches long, bracts large and broad, vivid deep orange-red verging on crimson, puberulous on both sides, the edges of the lower half of each bract are adnate partly to the peduncle and partly to the bases of the two bracts next above, so as to form a series of pockets, in which the flowers are secreted; the free part of the bracts is broadly elliptic ovate obtuse.—*Gardener's Chronicle*, N.S., vol. xviii., p. 393.

EUCALYPTUS COCCIFERA. *J. Hooker.* A hardy glaucous Van Diemen's Land tree, with white flowers. Belongs to the Myrtleblooms (*Myrtaceæ*). Introduced about 1842, by Ronald Gunn, Esq.

According to Dr. Hooker, it is a species inhabiting the highest mountains of Van Diemen's Land, where it becomes a bush, or small tree, about ten feet high. It is both Nos. 411 and 1,076 of Mr. Gunn's collections, and appears to be sometimes glaucous, sometimes green. In the garden it has a thick bluish bloom spread over every part. The branches are purplish-brown and slightly rugged. The leaves oblong, more or less narrow, long-stalked, usually equal-sided, and are most commonly extended at the point into a long and slender awn, by which it is readily recognised. The flowers are produced on short compressed peduncles in clusters of three to five; the tube of the calyx is pear-shaped, and the lid rugged and convex, but slightly concave in the centre. The fruit when ripe is nearly hemispherical, with a slightly raised even border. As far as can be at present ascertained, this may be expected to prove one of the hardiest of the Van Diemen's Island trees.—*Journal of Hort. Soc.*, vol. vi.

LYSIMACHIA CANDIDA. *Lindley.* A hardy herbaceous plant with white flowers, belonging to the order of Primworts. Raised from the soil contained in a box sent from China.

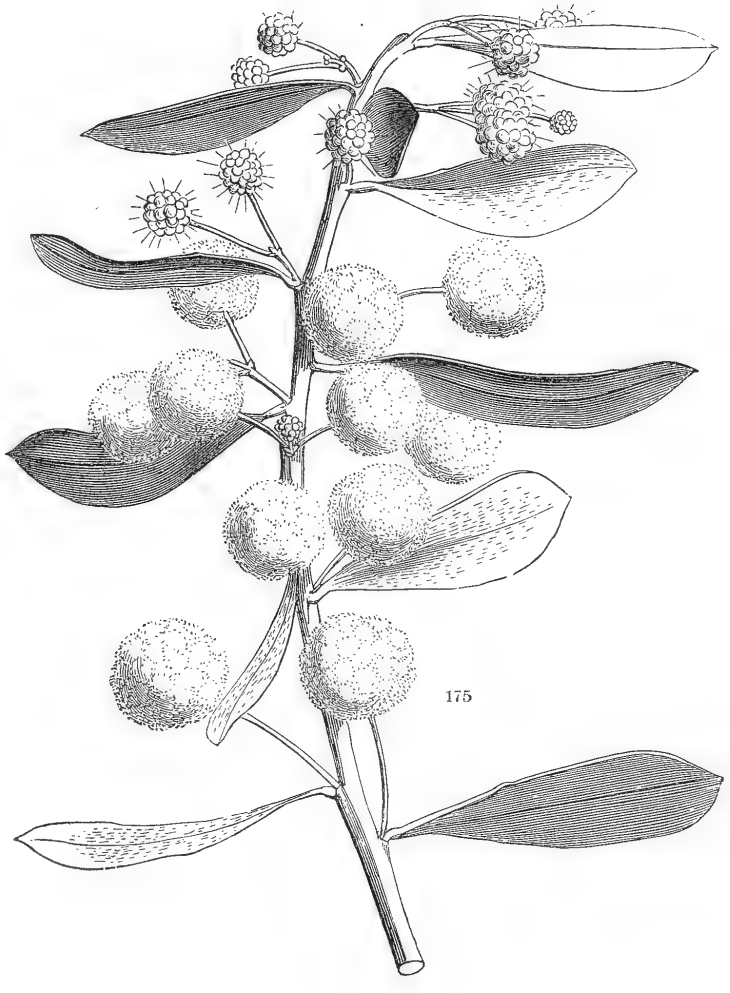
This is a dwarf, compact, dark-green, herbaceous plant, growing about a foot high. It is perfectly smooth. The radical leaves are narrowly oval, tapering into the stalk, and about four inches long; those of the branches are very narrow, and somewhat spathulate; all of them are very obscurely toothed at the edge, or show some tendency to be so, and are marked by scattered dark purple dots, which are not seen unless the leaves are viewed by transmitted light. The flowers grow in close racemes, are white, and have much the appearance of those of *L. ephemerum*, but the corollas are much larger. It is a plant of very free growth, and will succeed in any sort of soil. From the profuse manner in which it blossoms, it can be abundantly multiplied from seed.—*Journal of Horticultural Society*, vol. i.

ACACIA BOMBYCINA. *Bentham.* A fine silky-leaved New Holland shrub, from Swan River, of the Leguminous Order. Flowers bright yellow. Raised from seeds received from Mr. Drummond. (Fig. 175.)

A. bombycina; (§ Phyllodineæ, Uninerviæ, Latifoliæ) pube minutâ sericeâ, ramulis subangulatis, phyllodiis obovatis oblongisve subobliquis obtusissimis marginulatis eglandulosis v. obscurè uniglandulosis uninervibus penniveniis, capitulis solitariis v. paucis breviter racemosis multifloris. Phyllodia 1½, 2½, pollicaria.—*Bentham in litt.*

This handsome species has been for some time in Gardens under the false name of *A. podalyriæfolia.* It forms a small bush, densely covered with a grey silky hairiness. The phyllodes are obovate, tapering to the base, very soft, one-nerved, and usually with a gland a little below the middle of the upper edge. The rich yellow balls of flowers are placed on stalks shorter than the phyllodes, and are either single or in clusters of from 2 to 4 or even 5. Mr. Bentham, who has been good enough to examine the plant, remarks, "It belongs to the *Uninerviæ*, and is near *brachybotrya* and *podalyriæfolia*, differing from the former in its much larger leaves and the silkiness of the pubescence, from the latter in its heads either solitary or few in a short raceme; but positive characters cannot well be given without specimens in flower, as the calyx and corolla often give very good distinctive marks."

Unfortunately our flowering specimens have been mislaid; but there can be no doubt of the distinctness of the species from all as yet in books.



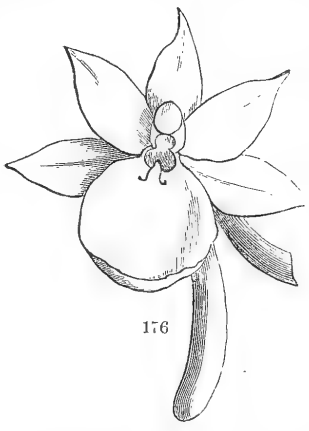
AERIDES FLAVIDUM. A handsome fragrant Orchidaceous epiphyte, with yellow and pink flowers. Native country unknown. Flowered with A. Kenrick, Esq.

A. flavidum (A. quinquevulnera facie); labelli cornuti laciniis lateralibus rotundatis integerrimis intermediâ breviore bifidâ glabrâ.

We have received of this three flowers only, with a statement that the plant much resembles *A. quinquevu'nera.* They are glutinous and very fragrant; the lip is quite different from that of any species with which we are acquainted, the lateral lobes being rounded and entire, while the middle lobe is much shorter and two-lobed. Of the lip the horn is green, the lobes pale yellow; the petals and sepals are white dashed with pink.

ANGRÆCUM MONODON. A small pink-flowered African epiphyte, with distichous leaves. Flowered with M. Pescatore of Paris. (Fig. 176, much magnified.)

A. monodon; subacaule, foliis distichis oblongis obliquè bilobis, racemis angustis multifloris, bracteis minimis membranaceis rotundatis cucullatis, setundo basi dente solitario aucto calcare palis petalisque ovatis acutis, labello subrocrasso clavato breviore.



This curious little species was obtained from Gabon, in Africa, by M. Pescatore, from whom we received a specimen. It has roundish, oblong, distichous leaves, and small reddish flowers, smelling something like the seeds of a horse-chestnut. Its specific name refers to the presence of a small erect tooth which stands on the lip in front of the opening into the spur, as is shown in the accompanying cut, which represents a flower six times larger than natural.

ATACCIA CRISTATA. *Kunth.* (*alias* Tacca cristata *Jack; alias* Tacca Rafflesiana *Jack.*) A dingy-flowered tuberous stove-plant from Malacca. Belongs to the Natural Order of Taccads. Introduced by the Royal Botanic Garden, Kew.

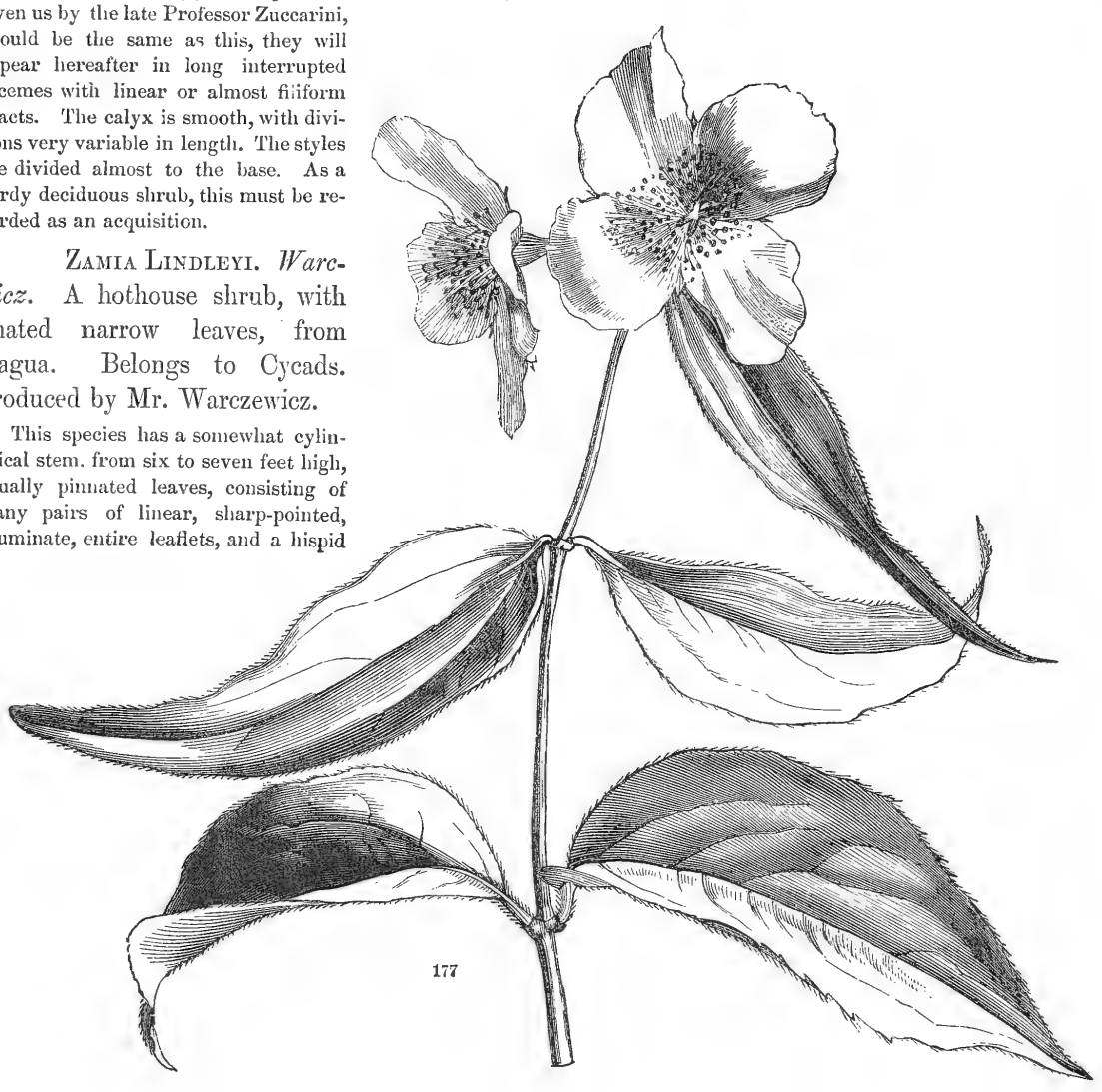
Both Endlicher and Kunth, though they follow Presl in adopting this genus *Ataccia* for the entire-leaved species of *Tacca*, yet express their doubts as to the propriety of the separation. I am incompetent to pronounce, through a want of recent specimens of the original *Tacca*, on the value of the distinctions: but, judging from the figures and dried specimens, the difference is more in habit than in essential character. *Tacca* has multifid leaves and tuberous roots, and may be considered an annual plant. *Eutaccia* has entire leaves, a short subterraneous conical stem or caudex, quite different from the tubers of the former. There is no difficulty, therefore, in recognising the respective genera.

A. cristata, the subject here figured, has been long cultivated in the stove of the Royal Gardens of Kew, under the name of *Tacca integrifolia* Gawl., and is a native of the Malay Islands and Archipelago. *Tacca aspera* Roxb. (*T. integrifolia* Gawl. in *Bot. Mag.* t. 1488, and of Roxb. Coromandel plants, vol. iii. t. 257), from Chittagong, may be known by the short scape or flower-stalk, which, as well as the petioles, are scabrous. *Tacca lævis* Roxb., from Silhet Gualpara, and Chappedong (Wall.) and Assam, is easily recognised by the four sessile uniform leaves of the involucre, and small and slender habit. *Tacca lanceæfolia* Zoll. (*Ataccia* Kth.), is probably a variety of the latter.—All these are Indian: but I possess another and distinct species from Demerara, South America, with a creeping rhizoma! There are few more remarkable-looking plants in cultivation than our *Ataccia cristata*. Root a few coarse fibres, issuing from a short underground, conical, descending caudex or rhizoma, marked with the rings or scars of fallen leaves, and here and there throwing out small tubers or gemmæ. Leaves three or four, all from this short caudex. Petioles semiterete, smooth: the blade oblong, acuminate, dark purple-green, penninerved, nerves mostly prominent beneath. Scape about as long as the leaves, erect, stout, angled, dark purple, smooth: terminated by a large, dark purple, four-leaved, membranaceous involucre: the two outer leaflets opposite, sessile, ovato-acuminate, striated, patent, two inner placed side by side, erect, very large, greenish, striated, reticulated, edged with purple; the shape broadly ovate, acute, but tapering into a long, narrow, deep purple base. Peduncles numerous, dark purple, about two inches long, terminated each by a single flower and forming a drooping unilateral umbel: these floral peduncles are accompanied by several (external) long, tapering, filiform sterile ones, six inches long, which spread out in their lower portion, while the rest of the tendril-like peduncle droops. Perianth dark purple: the tube turbinate, six-angled, for the greater part united with the ovary; the limb sexpartite, suddenly reflexed; the segments or lobes in two series, outer smaller, the inner larger, all ovato-rotundate, acute, striated, the rim of the mouth forming a crenated ring. Stamens six, within the mouth of the tube: filament broad, the margin lamellate and plaited, the back cohering with the perianth; anther cuculla'e, two-celled: pollen globose. Ovary adherent with the calyx tube, one-celled, having three longitudinal, furrowed, parietal placentæ, bearing several ovules. Style short, conical, six-furrowed. Stigma of three, broad obcordate, green, reflexed, plaited lobes; the edges of the plaits ciliated. This singular tropical plant is of easy cultivation. It grows and flowers freely in a moist, warm stove. A mixture of light loam and peat-soil suits it, and, being a native of moist places, it requires a copious supply of water. It increases freely by offsets, which are produced from the sides of the erect rhizome-like caudex; these offsets, when separated, root readily in small pots placed in a close moist atmosphere.—*Bot. Mag.*, t. 4589.

PHILADELPHUS SATSUMI. *Siebold.* A hardy deciduous shrub, with white flowers. Native of Japan. Belongs to the Order of Syringas. Blossoms in July. (Fig. 177.)

We have failed to discover in what work this plant has received the name by which it has been sent to this country. It is nearly allied to *Ph. laxus;* but seems to be distinct from that and all other American species. It forms a very graceful bush, with a good foliage of a dark green colour, with the upper leaves very long, narrow and undivided. The foliage is slightly hairy on the underside, the lower leaves oval-lanceolate, acuminate, with a few shallow very acute serratures.

The flowers grow singly or in pairs at the end of weak, slender shoots; but, if a Japanese specimen, without a name, given us by the late Professor Zuccarini, should be the same as this, they will appear hereafter in long interrupted racemes with linear or almost filiform bracts. The calyx is smooth, with divisions very variable in length. The styles are divided almost to the base. As a hardy deciduous shrub, this must be regarded as an acquisition.



ZAMIA LINDLEYI. *Warczewicz.* A hothouse shrub, with pinnated narrow leaves, from Veragua. Belongs to Cycads. Introduced by Mr. Warczewicz.

This species has a somewhat cylindrical stem, from six to seven feet high, equally pinnated leaves, consisting of many pairs of linear, sharp-pointed, acuminate, entire leaflets, and a hispid petiole. Found with the next on the Cordillera of Veragua, at the elevation of from 5000 to 7000 feet above the sea. —*Allgem. Gartenzeit.*, May 10th, 1851.

ZAMIA SKINNERI. *Warczewicz.* A hothouse shrub with pinnated broad leaves, from Veragua. Belongs to Cycads. Introduced by Mr. Warczewicz.

The same traveller found this growing in company with *Zamia Lindleyi.* The stem is from four to six feet high, broader at the bottom than the top. The leaves are equally pinnated, and consist of many pairs of elliptical-lanceolate leaflets, acute at each end and serrated near the point. Their petiole is prickly.—*Allgem. Gartenzeit*, May 10th, 1851.

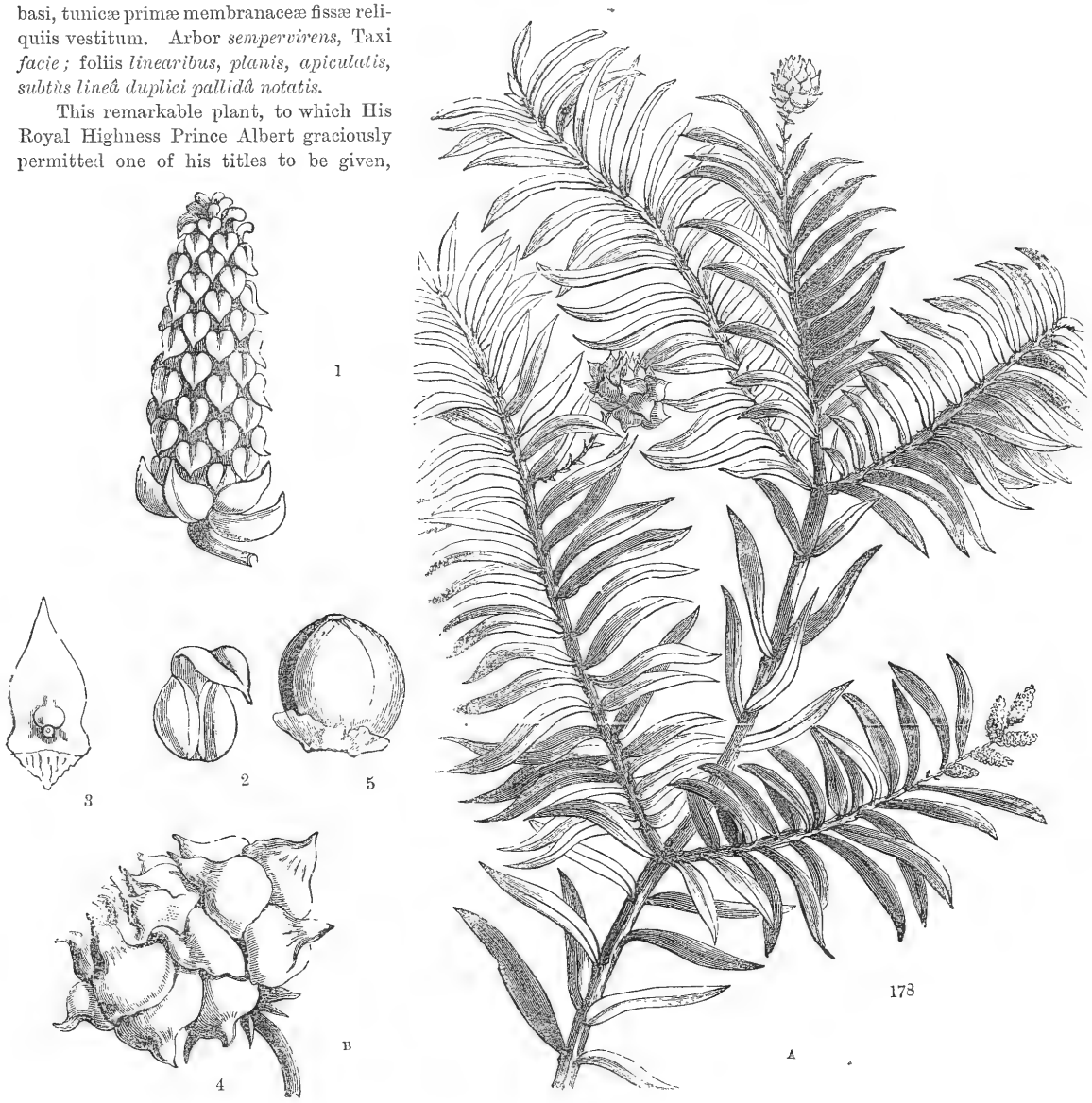
BERBERIS THUNBERGII. This, although not a new plant, is still not so generally cultivated as it deserves. Its dwarf distinct habit and profuse flowering disposition make it worthy of a place in every shrubbery, where it is most useful standing to the front. It comes from Japan, and thrives under the ordinary conditions that suit the generality of shrubbery plants, blooming in the spring.

A low bush, with close strict, robust, deeply grooved branches clothed with red-brown bark; spines half an inch long. Leaves in crowded tufts all along the branches, half an inch to nearly one inch long, obovate or spathulate, tip rounded, apiculate or not, nerves very indistinct. Flowers very numerous, small, one-fourth to one-third of an inch in diameter, drooping, solitary or in pairs on very slender curved pedicels. Sepals three or four, equal, ovate, acute, red, half as long as the petals. Petals pale straw coloured, suffused with red. Ovary oblong; stigma broad, sessile, orbicular. Fruit a quarter of an inch long, globose, or broadly ellipsoid, with a sessile stigma.—*Botanical Magazine*, 6646.

SAXE-GOTHÆA CONSPICUA. *Lindley.* An evergreen hardy Coniferous tree of great beauty, from the Andes of Patagonia. Introduced by Messrs. Veitch. (Fig. 178.)

Generic Character. Genus *Coniferarum* monoicum.—Fl. masc. *Antheræ* spicatæ, 2-loculares, apice acuminatæ reflexæ.—Fl. fœm. *Strobilus* imbricatus, è squamis acuminatis liberis infra medium monospermis. *Ovulum* inversum, in foveâ squamæ semi-immersum; *tunicâ primâ* laxâ, ventre fissâ, *secundâ* foramine pervio, *nucleo* apice spongioso protruso. *Galbulus* carnosus, è squamis mucronatis, apice liberis, squarrosis, omninò connatis, plurimis abortientibus *Semen* nucamentaceum, leviter triangulare, basi, tunicæ primæ membranaceæ fissæ reliquiis vestitum. Arbor *sempervirens*, Taxi *facie;* foliis *linearibus, planis, apiculatis, subtùs lineâ duplici pallidâ notatis.*

This remarkable plant, to which His Royal Highness Prince Albert graciously permitted one of his titles to be given,



is a native of the mountains of Patagonia, where it was found by Mr. William Lobb, forming a beautiful tree 30 feet high. The country in which it grows is more cold and stormy than any part of Great Britain, as is shown by the following account given of it by Mr. Lobb in one of his letters to Messrs. Veitch :—

"During my absence I visited a great part of Chiloe, most of the islands in the Archipelago, and the coast of Patagonia for about 140 miles. I went up the Corcobado, Caylin, Alman, Comau, Reloncavi, and other places on the coast, frequently making excursions from the level of the sea to the line of perpetual snow. These bays generally run to the base of the central ridge of the Andes, and the rivers take their rise much further back in the interior. The whole country, from the Andes to the sea, is formed of a succession of ridges of mountains gradually rising from the sea to the central ridge. The whole is thickly wooded from the base to the snow line. Ascending the Andes of Comau, I observed from the water to a considerable elevation the forest is composed of a variety of trees, and a sort of cane so thickly matted together that it formed almost an impenetrable jungle. Further up, amongst the melting snows, vegetation becomes so much stunted in growth, that the trees, seen below 100 feet high and 3 feet in diameter, only attain the height of 6 inches.

"On reaching the summit no vegetation exists—nothing but scattered barren rocks which appear to rise amongst the snow, which is 30 feet in depth, and frozen so hard that on walking over it the foot makes but a slight impression.

"To the east, as far as the eye can command, it appears perfectly level. To the south, one sees the central ridge of the Andes stretching along for an immense distance, and covered with perpetual snow. To the west, the whole of the islands, from Guaytecas to the extent of the Archipelago, is evenly and distinctly to be seen.

"A little below this elevation the scenery is also singular and grand. Rocky precipices stand like perpendicular walls from 200 feet to 300 feet in height, over which roll the waters from the melting snows, which appear to the eye like lines of silver. Sometimes these waters rush down with such force, that rocks of many tons in weight are precipitated from their lofty stations to the depth of 2000 feet. In the forest below everything appears calm and tranquil; scarcely the sound of an animal is heard; sometimes a few butterflies and beetles meet the eye, but not a house or human being is seen. On the sandy tracts near the rivers, the lion or puma is frequently to be met with; but this animal is perfectly harmless if not attacked."

It is from this wild and uninhabited country that many of the fine plants raised by Messrs. Veitch were obtained, and among them the *Saxe-Gothæa*, *Podocarpus nubigena*, *Fitz-Roya patagonica*, and *Libocedrus tetragona*. Of these he writes thus :—

"The two last (*Fitz-Roya* and *Libocedrus*) I never saw below the snow line. The former inhabits the rocky precipices, and the latter the swampy places between the mountains. The first grows to an enormous size, particularly about the winter snow line, where I have seen trees upwards of 100 feet high, and more than 8 feet in diameter. It may be traced from this elevation to the perpetual snows, where it is not more than 4 inches in height. With these grow the Yews (*Saxe-Gothæa* and *Podocarpus nubigena*), which are beautiful evergreen trees, and, as well as the others, afford excellent timber."

Saxe-Gothæa may be described as a genus with the male flowers of a Podocarp, the females of a Dammar, the fruit of a Juniper, the seed of a Dacrydium, and the habit of a Yew. Its fleshy fruit, composed of consolidated scales, enclosing nut-like seed, and forming what is technically called a Galbulus, places it near Juniperus, from which it more especially differs in its anthers not being peltate, nor its fruit composed of a single whorl of perfect scales, and in its ovule having two integuments instead of one. In the last respect it approaches Podocarpus, and especially Dacrydium; but the exterior integument of the seed is a ragged abortive membrane, enveloping the base only of the seed, instead of a well-defined cup. In a memorandum in my possession, by Sir William Hooker, I find this distinguished botanist comparing Saxe-Gothæa to a Podocarp with the flowers in a cone—a view which he was probably led to take by the condition of the ovule, and which may be regarded as the most philosophical mode of understanding the nature of this singular genus; to which Nageia may be said to be a slight approach, and which is not distinguishable by habit from a Podocarp.

In its systematic relations Saxe-Gothæa possesses great interest, forming as it does a direct transition from the one-flowered Taxads to the true imbricated Conifers, without, however, breaking down the boundary between those orders, as I understand them, but rather confirming the propriety of limiting the Coniferous order to those genera which really bear cones instead of single naked seeds. In the language of some naturalists, Saxe-Gothæa would be called an osculant genus between Taxads and Conifers.

The leaves of this plant have altogether the size and general appearance of the English Yew, *Taxus baccata*; but they are glaucous underneath, except upon the midrib and two narrow stripes within the edges, which are pale green. The male flowers consist of spikes appearing at the ends of the branches, in a raceme more or less elongated. These spikes (fig. 1) grow from within a few concave acute scales, which form a kind of involucre at the base. Each male is a solitary membranous anther, with a lanceolate, acuminate, reflexed appendage, and a pair of parallel cells opening longitudinally. The female flowers form a small roundish, pedunculated, terminal, scaly imbricated cone. The scales are fleshy, firm, lanceolate, and contracted at their base, where they unite into a solid centre. All appear to be fertile, and to bear in a niche in the middle, where the contraction is, a single inverted ovule (fig. 3). The ovule is globular, with two integuments beyond the nucleus; the outer integument is loose and thin, and wraps round the ovule in such a way that its two edges cannot meet on the under side of the ovule; the second integument is firm and fleshy; the nucleus is flask-shaped, and protrudes a fungous circular expansion through the foramen. The fruit (fig. 4) is

formed by the consolidation of the free scales of the cone into a solid fleshy mass of a depressed form and very irregular surface, owing to many of the scales being abortive, and crushed by those whose seeds are able to swell; while the ends of the whole retain their original form somewhat, are free, rather spiny, and constitute so many tough, sharp tubercles. The seed (fig. 5) is a pale brown, shining, ovate, brittle nut, with two very slight elevated lines, and a large irregular hilum; at the base it is invested with a short, thin, ragged membrane, which is the outer integument in its final condition. The nucleus lies half free in the interior, the fungous apex having shrivelled up and disappeared. Since this was written, Sir W. Hooker has placed in my hands a sketch of the anatomy of the female flowers of Saxe-Gothæa, by Mr. B. Clarke, who describes the ovule thus:—"Its ovule has the same structure as that of Gnetum, as described by Mr. Griffith, viz.: it has three integuments; the internal protrudes, and forms a sort of stigma, not so obvious as in Gnetum; the external has constantly a fissure on its posterior, or rather inferior surface, which, however, does not close as in Gnetum when the ovule advances in growth, nor yet become succulent. Mr. Griffith describes the fissure in the external integument of Gnetum as constantly posterior; and if the ovules of the strobilus were erect, they would agree with Gnetum in this particular.

Explanation of the Cuts.—A, a branch with male and female flowers, natural size; B, various details of the fructification, more or less magnified; 1, a spike of male flowers; 2, a male or anther apart; 3, a scale seen from the inside with the inverted ovule, showing the fungous foramen protruding beyond the primine (outer integument); 4, a ripe fruit; 5, a seed, showing the two slight elevations upon the surface, and the remains of the ragged primine at the base.—*Journal of Hort. Soc.*, vol. vi.

Celmisia spectabilis. A very distinct and handsome plant, from New Zealand, introduced by Mr. Veitch, with whom it bloomed in the summer of 1882. The large daisy-like flowers white, slightly tinged with lilac, and having a yellow disk, are very effective. It will, no doubt, require treating as a greenhouse plant, although it is said in some cases to be found in the Alpine regions of the country at a elevation of as much as 5,000 feet.

Rootstock woody, short or long, often as thick as the thumb, obliquely descending. Leaves numerous, strict, erect, five to seven inches long by one-half to one inch broad, coriaceous, ensiform, elliptic-lanceolate or linear-oblong, obtuse or acute, quite entire or obscurely serrulate, dark green above with parallel impressed nerves and a few silky hairs, beneath densely clothed with matted buff or straw-coloured wool; base narrowed, then dilated into a broad sheathing laxly silky-woolly tumid sheath, two to four inches long. Scapes several, stout, stiff, erect, longer than the leaves, clothed with silky white wool. Head two inches in diameter; involucre obconic, scales very narrow, woolly. Ray-flowers very numerous, revolute, white or pale lilac. Disk-flowers yellow. Achenes narrowly ellipsoid, compressed, smooth and glabrous; pappus hairs very unequal.—*Botanical Magazine*, 6653.

Nepenthes coccinea. This is another of the beautiful new American hybrid varieties acquired by Mr. B. S. Williams, of Holloway. It is a very handsome variety, and undoubtedly a great acquisition on account of its colour, which, so far as appearance goes, will be equal, if not superior, to *N. sanguinea*, whilst the pitchers are much handsomer in form than that variety, being flask-shaped after the way of the well-known *N. Rafflesiana;* they are of medium size, six or seven inches long, and of proportionate diameter; in colour crimson-red spotted with yellow; wings moderate in size, and furnished with the usual prominent teeth; the rim, or mouth, of the pitcher is beautifully marked with black and red alternately.

Phalænopsis fasciata. *H. G. Reichenbach, f.* Time was when the beautiful Moth Orchids in cultivation were confined to very few species, and for many years it appeared as if there would be no addition to them; but now new kinds, very distinct in their general character, are continually making their appearance. It is to be hoped that these later comers will not share the fate of so many thousands of the older kinds that have been introduced before them, through the mistaken treatment of over-excitement in a sweltering atmosphere, with insufficient air, and above all a too high temperature in

the winter season, which did not admit of their getting enough rest to long maintain a healthy condition.

Like *P. Sumatrana* in the shape of its light yellow sepals and petals, with numerous cinnamon bars. Lateral divisions of the lip retuse, sulphur coloured, keel blunt with a knob parallel to the anterior margin. Between both on the disk is a number of retrorse-toothletted orange plates, and two conical papulæ terminating in bristles stand before the base of the median partition. The latter is oblong ligulate, keel membranous. Anterior part light purple, the superior orange.—*Gardener's Chronicle*, N.S., vol. xviii. p. 134.

PERNETTYA MUCRONATA, VARIETIES OF. In 1879 or 1880 (we write from memory), Mr. L. J. Davis, of the well-known Ogle's Grove Nursery, Hillsborough, Co. Down, exhibited at one of the Royal Horticultural Society's fortnightly meetings some new varieties, raised from seed, of *Pernettya mucronata*; and again at the October meeting of 1882 he sent a number of seedlings raised, we understand, from the plants above alluded to, but very much superior to them. Nothing in their way could be more charming; they were shown in pots, but evidently had been taken up from the open ground; dwarf and compact, ranging from a foot to eighteen inches high, and profusely clothed with most beautiful berries in different colours, from creamy white, through the various shades of pink and deep red to almost black; so densely were the shoots in many cases furnished with their pretty fruit that they were not in appearance unlike large heads of maize, with the corn in them closely packed. Some half dozen of the most distinct, bearing the following names, received First Class Certificates: *P. alba*, berries white; *P. sanguinea*, dark crimson; *P. purpurea*, pale purple; *P. carnea nana*, flesh colour; *P. macrocarpa*, a distinct shade of crimson; *P. nigra major*, berries almost black. All these are quite equal in their way to *Cratægus Pyracantha*, the well-known scarlet-berried shrub, so often used for covering walls, with the additional advantage that the subjects of our notice carry a profuse crop of berries in so dwarfed a state. They deserve to be cultivated by every one who can appreciate handsome shrubs with pretty deep green foliage. Independent of their berries, they are very effective when in bloom; the flowers are white.

THE CARMINE TRICHOPIL.
(TRICHOPILIA COCCINEA.)

[PLATE 63.]

THE CARMINE TRICHOPIL.

(TRICHOPILIA COCCINEA.)

A Beautiful Epiphyte, from CENTRAL AMERICA, *belonging to the Natural Order of* ORCHIDS.

Specific Character.

THE CARMINE TRICHOPIL.—Pseudobulbs oblong, narrow, compressed, furrowed, one-leaved. Leaves lanceolate, flat, somewhat cordate at the base, acuminate and recurved at the point. Peduncles one-flowered. Petals linear-lanceolate, acuminate, twisted once. Lip four-lobed, closely rolled up at the base; its divisions rounded, convex, plane. Hood three-lobed with fringed nearly equal divisions.

Trichopilia coccinea: *Warczewicz in his correspondence and throughout the English auctions and gardens in* 1849 *and* 1850: *alias* Trichopilia marginata: *Gard. Mag. of Bot., July,* 1851, *with a figure.*

THIS beautiful species of Trichopil was found in Central America by Mr. Warczewicz (not by Linden, as has been stated), by whom drawings and living plants were sent to England in 1849, under the name of *T. coccinea*, by which it was publicly sold, and has since been universally known. We cannot therefore subscribe to Mr. Henfrey's alteration of the name to *T. marginata*, either in justice to the zealous and ill-requited traveller who found it, or in the interest of science, which suffers seriously in public estimation by the needless changes in names made by writers on Natural History subjects.

The usual colour of the flower is a deep rich carmine, with a narrow edge of white; but it appears from the figure above referred to, that the rich colour is sometimes confined to the lining of the tube, the whole of the expanded limb being white. The drawing from which our plate was prepared was made in the garden of the Horticultural Society, and the colour is less intense than in Mr. Warczewicz's unpublished drawings.

It is not to the Sweet Trichopil (our plate 32) that we must look for resemblance to this species, for the whole form, texture, and aspect of that plant are different. It

is to the original Corkscrew Trichopil (*T. tortilis*) that it approaches nearly, differing principally in its larger and rich carmine flowers, slightly twisted sepals and petals, and the equal size of the fringed lobes of the anther-hood. In foliage and pseudobulbs the two are so much alike, that one might be taken for a more vigorous specimen of the other.

Now that we have three well-ascertained species before us, it may be as well to point out the different characters of what are known, thus :—

T. tortilis, Lindley. Pseudobulbs narrow, compressed, furrowed. Leaves lanceolate, plane, slightly cordate. Petals twice twisted, brown and yellow. Lip even, flat, white with crimson spots.

T. coccinea, Warczewicz. Pseudobulbs narrow, compressed, furrowed. Leaves lanceolate, plane, slightly cordate. Petals once twisted, brownish and yellowish. Lip even, flat, carmine with a white border.

T. suavis, Lindley. Pseudobulbs thin, orbicular. Leaves broad, oblong, undulated. Petals not twisted, white dashed with pink. Lip very thin and wavy, crisp, white with rose-coloured blotches.

T. Galeottiana, Richard and Galeotti, Orch. Mex. t. 31 ined. Pseudobulbs terete, stem-like. Sepals and petals not twisted. Flowers very large, yellow.

THE WHITE & SANGUINE DENDROBE.
(DENDROBIUM ALBO-SANGUINEUM.)

[PLATE 64.]

THE WHITE AND SANGUINE DENDROBE.

(DENDROBIUM ALBOSANGUINEUM.)

A Hothouse Epiphyte, from Moulmein, belonging to the Natural Order of ORCHIDS.

Specific Character.

THE WHITE AND SANGUINE DENDROBE (Eudendrobes).—Stems thick, erect. Flowers in pairs, nodding, with herbaceous scale-like bracts. Sepals linear-lanceolate, the side ones extended into a short, obtuse, rounded chin. Petals oblong, incurved, very much broader. Lip roundish-obovate, flat, retuse, apiculate, quite entire.

SOME of the finest species of this genus are found in the division which we formerly characterised under the name of EUDENDROBIUM, consisting of plants with leafy stems and flowers growing in pairs, or perhaps threes, from the sides of the stem. The division is separated from DESMOTRICHUM, on the one hand, by the lip not being broken up into a tuft of hairs, and, on the other, from STACHYOBIUM, by the flowers not forming racemes.

Of the Eudendrobes, about a third have the lip divided distinctly into three lobes, and these consist for the most part of small-flowered species of little interest, although they also include such charming plants as *D. Ruckeri, sanguinolentum, villosulum,* and *Jerdonianum,* if the two last species are really distinct from each other, as would seem from no mention being made by Dr. Wight of hair upon the stems of the last.

The remainder consist of a number of species, in which the lip has no lateral lobes, but forms, when flattened, a circular or oblong plate. Of this division there are three natural groups, of which it is not easy to define the limits, but which the cultivator will readily appreciate. Of the first, *D. macrophyllum* and *nobile* may be taken as types; of the second, *D. Pierardi* and *pulchellum;* while the third includes the yellow-flowered species, such as *D. chrysanthum* and *aureum.* To the last group belongs the very remarkable plant now figured.

D. albosanguineum, so named from its broad whitish flowers marked in the middle with a rich sanguine stain, is a stout erect plant with knobby stems, rather thicker at the upper than the lower end. It has broad firm leaves, and from the sides of the stem it produces in pairs very large flowers, of a waxy appearance and consistence, with none of the transparency that belongs to *Pierardi* and its allies. When spread flat, these are full four inches in diameter. The sepals are very narrow, and curve inwards, as do the broad banner-like petals, which form a kind of vault over the lip and column. The lip is nearly flat, by no means cucullate except just at the very base, where it presses against the column. We now subjoin Messrs. Veitch's account of it:—

"This species was found by Mr. T. Lobb in open forests on hills near the Atran river, in Moulmein. The description he sent us of it was as follows:—Stems round, jointed, erect; spikes two and three terminal, erect, five and six-flowered; flowers two and a half to three inches across, white, with two intense purple spots on the lip; petals also stained with purple at the base. We only received it on the 23rd of April, and in June the flowers you saw expanded; the plants were just bursting into flower when he collected them in February. We have it growing both in pots and on bare blocks, in both which situations it is doing well with us. We find it do well under just similar treatment to that we give to *D. formosum*. It is evidently a free grower, and we have no doubt next spring we shall have it bloom very fine; although the specimen sent you had but two flowers, yet from the *old* spikes it is evident it flowers, as Lobb describes, in fives and sixes on a raceme." We found the flowers to grow in pairs, as we have stated. Perhaps two or three pairs may have been taken for one single inflorescence.

A CATALOGUE

Of the DENDROBES *belonging to the section* EUDENDROBIUM *having an undivided lip, with their synonymes and horticultural merits.*

GROUP 1.—GRANDIA.

1. D. macrophyllum *Lindley*.—Manilla.—Flowers very large, bright rose-colour, rhubarb-scented.

2. D. anosmum *Lindley*.—Manilla.—Like the last, but scentless.

3. D. moniliforme *Swartz*.—Japan.—Flowers large, showy, rose-colour, not spotted.

4. D. cœrulescens *Lindley*.—E. Indies.—Flowers showy, rose-colour, with a purple-stained lip. (alias *D. Wallichii* of gardens.)

5. D. nobile *Lindley*.—China.—Flowers large, rose-colour, with a purple-stained lip, larger than in the last.

6. D. tortile *Lindley*.—Java (?).—Flowers very handsome, violet, with a primrose-coloured lip.

Group 2.—TRANSPARENTIA.

7. D. pulchellum *Roxburgh.*—Sylhet.—Sepals whitish; petals pink; most beautiful.

8. D. Devonianum *Paxton.*—Khasija Hills.—Like the last, but much handsomer.

9. D. Pierardi *Roxburgh.*—E. Indies.—Flowers delicate pink; very pretty.

10. D. cretaceum *Lindley.*—Moulmein.—Flowers chalky-white, with crimson-pencilled lip.

11. D. cucullatum *R. Brown.*—E. Indies.—Very like *D. Pierardi.*

12. D. Egertoniæ *Lindley.*—E. Indies.—Flowers pale pink, very sweet-scented.

13. D. mesochlorum *Lindley.*—E. Indies.—Flowers white, with the petals, &c., tipped with pink, rather sweet-scented.

14. D. crepidatum *Lindley.*—Indian Archipelago.—Flowers white, tipped with pink; a yellow stain on the lip; very pretty.

15. D. transparens *Wallich.*—E. Indies.—Flowers pink, transparent, beautiful.

16. D. amœnum *Wallich.*—Nepal.—Flowers delicately white, exquisitely fragrant.
(alias *Limodorum aphyllum* Roxburgh.)

17. D. macrostachyum *Lindley.*—Ceylon.—Flowers rather small, greenish, not handsome.

18. D. gemellum *Lindley.*—Indian Archipelago.—Flowers small, pale yellowish-green; of no interest. (alias *Pedilonum biflorum* Blume.)

19? D. foliosum *Brongniart.*—Java.—I have seen in Reinwardt's Herbarium fragments of what seems to be this plant, but am unable to determine whether or not it is a Dendrobium. There is a small, reflexed, tongue-like appendage on the lip, which excites suspicion that it may be an axillary-flowered Appendicula. It should be compared with *D. auriferum,* a curious Chinese plant.

20. D. candidum *Wallich.*—Khasija Hills.—Flowers small, pure white, sweet-scented.

21. D. nutans *Lindley.*—Ceylon.—Flowers small, white or greenish, with a yellow lip; stem hairy.

22. D. stuposum *Lindley.*—E. Indies.—Flowers small, white, with a deep orange callus below the point of the lip.

23. D. connatum *Lindley.*—Java.—Flowers whitish green.
(alias *Onychium connatum* Blume.)

Group 3.—CHRYSANTHA.

24. D. chrysanthum *Wallich.*—Nepal.—Flowers deep yellow, with a double purple blotch on the lip.

25. D. Paxtoni *Lindley.*—Khasija Hills.—Flowers orange-yellow, with a deep brown spot in the middle of the lip.

26. D. ochreatum *Lindley.*—Khasija Hills.—Flowers rich yellow, resembling the last.
(alias *D. Cambridgeanum* Paxton.)

27. D. albo-sanguineum *Lindley*.—Moulmein.—Flowers very large, cream-coloured, with two deep crimson stains on the flat lip.

28. D. aureum *Lindley*.—E. Indies.—Flowers pale yellow or white, very fragrant.
(alias *D. heterocarpum* Wallich.)

29. D. rugosum *Lindley*.—Java.—Flowers pale yellow.
(alias *Grastidium rugosum* Blume.)

30. D. salaccense *Lindley*.—Java.—Flowers deep yellow.
(alias *Grastidium salaccense* Blume.)

GLEANINGS AND ORIGINAL MEMORANDA.

BERBERIS UMBELLATA. *Wallich* (*alias* B. angulosa *and* gracilis *of Gardens*). A handsome hardy evergreen bush, with pale yellow flowers, appearing in May. Native of the Himalayan mountains. (Fig. 179.)

Dr. Wallich's collectors appear to have first discovered this plant in Kamaon and Gossain Than. For its introduction to our gardens we are indebted to the East India Company. It is a hardy bush, about 4 feet high, with a spreading manner of growth, pale brown, angular branches, slender three-parted spines, and very narrow, bluish-green leaves, strikingly glaucous beneath; on an average they are $1\frac{3}{4}$ inch long by $\frac{3}{8}$ wide; sometimes they are perfectly entire, in which state they are represented in the *Botanical Register;* but they are more commonly furnished with a strong, marginal, spiny tooth or two, and sometimes with many. (Can this state be the *B. ceratophylla* of G. Don?) The flowers are pale yellow, in drooping, narrow racemes, and are succeeded by an abundance of oblong, purplish fruits. The species is very pretty, in consequence of its graceful manner of growth. It is best suited for growing among rough places, such as heaps of rockwork, where its spreading way of branching can best be seen. It is not, however, a good evergreen, the leaves being too thin and pallid.—*Journ. of Hort. Soc.*, vol. v.

179

POPULUS BOLLEANA. The advent of a handsome tree, hardy in our climate, is always an event worth notice. This Poplar has been introduced by Messrs. Paul and Son, of Cheshunt, who obtained it, we understand, from the Continent, where it has been in existence some years. It is a native of Turkestan. In habit it is somewhat erect; it resembles the well-known white Poplar, *P. alba*, but is sufficiently distinct from that favourite kind to deserve a place of its own. The merits of these quick-growing trees

are that they attain a large size much sooner than species possessing harder and more durable wood, but which require a longer time to give effect to grounds that immediately surround new dwellings. The best course in such places is to plant a limited quantity of these quick growers along with greater numbers of species that take longer to reach an effective condition, thinning the former out as the latter require room.

Nepenthes Rafflesiana, var. insignis. *Masters.* This is apparently a variety of the well-known *N. Rafflesiana,* more effective on account of the intensely deep-coloured marking of the pitchers than the typical species, which it much resembles in form, fully equalling it in size also. It is a native of Borneo, introduced by Mr. Bull, and is a fine addition to these deservedly popular, and now extensively cultivated, plants.

Leaves eighteen inches by three, oblong, and very thick in texture, leaf-stalks short (three inches), deeply channelled. Pitchers remarkably handsome, nine inches in length by four in breadth; green, heavily mottled with purplish-brown spots, thickly set with small brownish stelliform hairs. In form obliquely flask-shaped, tapering towards the top, wings broad, sharply toothed. Lid spreading horizontally, marked with two prominent nerves. Throat of the pitchers glaucous green, mottled with purplish-brown blotches and minute spots.—*Gardener's Chronicle,* N.S., vol. xviii., p. 425.

Spiræa callosa. *Thunberg.* A handsome, hardy, deciduous shrub, with brilliant rose-coloured flowers. Native of the north of China and Japan. Flowers in July and August. Re-introduced by Messrs. Standish and Noble. (Fig. 180.)

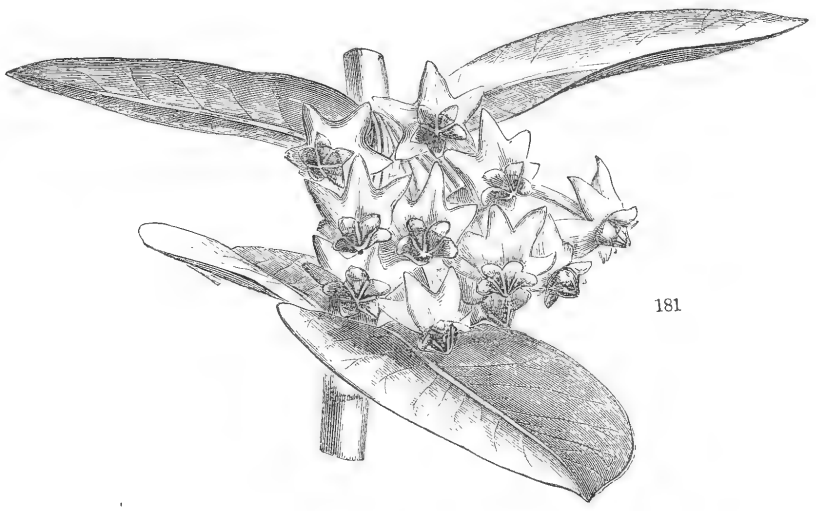
In general appearance this resembles the Nepal *Spiræa bella,* but is far more ornamental on account of the brilliant tint of its petals, especially when the flower-buds first begin to expand. The leaves are dark green, nearly exactly

180

lanceolate, rugose, sharply serrate, tapering to both ends, but entire near the base; they have a strong tendency to become three-lobed when vigorous; the serratures are tipped with little brown callosities. On the under side the leaves are glaucous, but not hairy. The flowers are arranged in branched cymes, which usually grow in pairs from the same side of the branch, the lower naked at the base, the upper supported by a long narrow leaf. The calyx is covered with fine

silky hairs, and divided into five sharp triangular lobes. The carpels are quite smooth. Mr. Fortune sent this from the northern part of China, but it was long since obtained for the Horticultural Society by Mr. Reeves, one of whose dried specimens is now before us.

HOYA CUMINGIANA. *Decaisne.* A stove scandent shrub, with dense flat leaves and short axillary umbels of greenish-yellow flowers. Native of the Philippines. Blossoms in May and June. Introduced by Messrs. Veitch and Son. (Fig. 181.)



181

At one of the exhibitions in the garden of the Horticultural Society this novelty was produced by Messrs. Veitch and Son. It is an erect bush with closely packed decussating sessile cordate leaves, very slightly downy beneath, and of a somewhat parchment-like consistence. The flowers are destitute of gay colours, the principal tint being yellowish-green, relieved by a coronet of rich purplish-brown. It is very distinct from any of the other species in cultivation, and before flowering would not be taken for a Hoya at all.

LILIUM PARRYI. A distinct and handsome species from Southern California, with golden-yellow flowers spotted with purple, and produced freely. From the character which the Kew specimen—which bloomed in the Rock Garden in the summer of 1882—seems to have developed, it appears to be a free grower, producing its numerous leaves in dense whorls up the greater portion of the stem. It will doubtless succeed with ordinary cultivation, and be quite hardy.

Bulb the size of a small apple, new ones formed close to the old without an intervening stalk, scales half an inch long, ovoid, fleshy, obtuse. Stem two to three feet high, stout, erect, cylindric, bright green. Leaves three to four inches long, in whorls of eight and more, narrowly lanceolate, acuminate, bright green. Raceme more than a foot high, many-flowered; rachis stout, grooved; bracts one to two inches long, subulate-lanceolate; flowers in whorls of three to six or more, sometimes scattered or alternate, horizontal on slender suberect pedicels. Perianth three inches in diameter, between bell and funnel-shaped; segments two to three inches long, narrowly oblanceolate, upper half spreading and revolute, externally deep straw-coloured, greenish towards the base, internally golden-yellow, with minute distant specks of purple. Stamens and style about equalling the perianth segments. Anthers linear-oblong; pollen yellow-brown. Capsule linear-oblong.—*Botanical Magazine,* 6650.

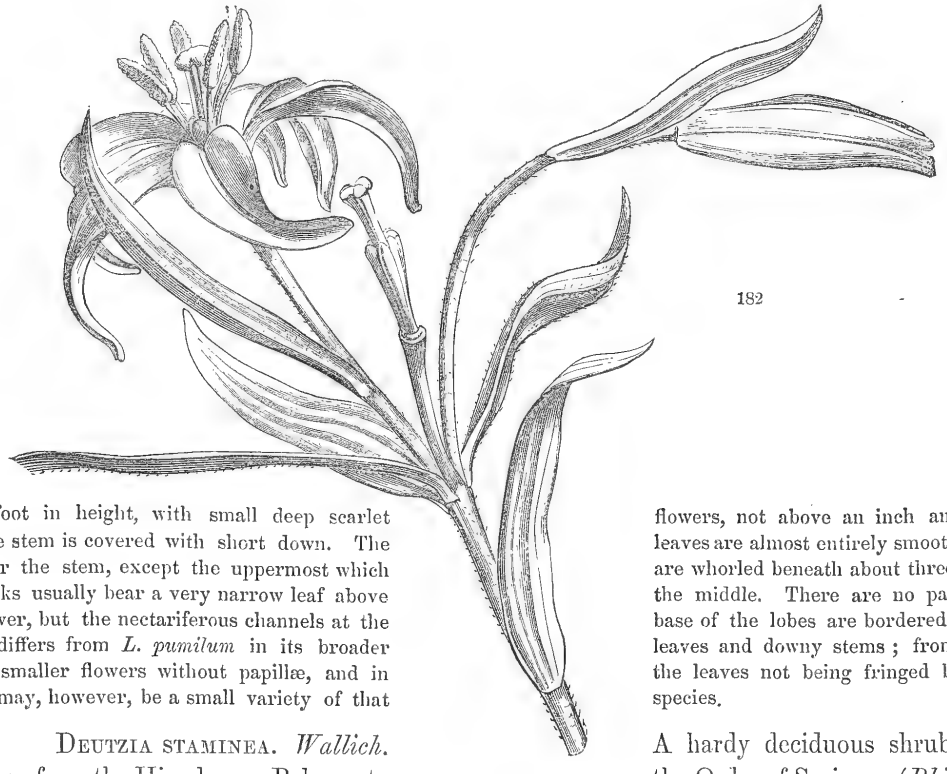
HABERLEA RHODOPENSIS. A handsome dwarf Gesnerad, very distinct in its general appearance. The plant, we understand, was received from Mr. Max Leichtlin, of Baden, and bloomed at Kew in April, 1882.

A hardy perennial, clothed except the corolla with soft spreading hairs. Leaves all radical, spreading and recurved, two to three inches long, obovate or ovate oblong, obtuse, narrowed into a broad stout petiole; nerves few, oblique. Scapes several, stout, dark purple-brown, four to six inches high, two to five flowered, with two small subulate or lanceolate bracts at the top. Flowers umbellate, drooping; pedicels stout, one-fourth to half an inch long, with sometimes a filiform bracteole about the middle. Calyx campanulate, five cleft to the middle, dark purple-brown; lobes ovate, acute. Corolla pale lilac, one inch in diameter; tube broad, hairy within; mouth oblique, obscurely two-lipped; lobes all rounded-obovate, emarginate, spreading, the two upper forming the upper lip the smallest. Stamens included; filaments glabrous; anthers united in pairs by the cells, which spread cruciately; abortive filament very short. Disk very narrow. Ovary and style pubescent; stigma notched.—*Botanical Magazine,* 6651.

LILIUM SINICUM. A handsome Chinese greenhouse bulbous plant, with scarlet flowers. Blossoms in July. Re-introduced by Messrs. Standish and Noble. (Fig. 182.)

L. sinicum; caule humili apice bi-trifloro subtomentoso, foliis sparsis oblongo-linearibus vix pubescentibus supremis sub floribus verticillatis, pedunculis nunc supra medium monophyllis, perianthii laciniis revolutis sessilibus intus lævibus circa rimam pubescentibus, staminibus perianthio brevioribus pistillo longioribus, ovario obovato obtusissimo styli longitudine.

This plant was originally imported from China by the Horticultural Society, in whose garden it flowered in September, 1824. Since then Messrs. Standish and Noble obtained it from Mr. Fortune. It is a very dwarf kind, hardly exceeding



182

a foot in height, with small deep scarlet flowers, not above an inch and a half long. The stem is covered with short down. The leaves are almost entirely smooth, and scattered over the stem, except the uppermost which are whorled beneath about three flowers, whose stalks usually bear a very narrow leaf above the middle. There are no papillæ inside the flower, but the nectariferous channels at the base of the lobes are bordered by short hairs. It differs from *L. pumilum* in its broader leaves and downy stems; from *L. concolor* in its smaller flowers without papillæ, and in the leaves not being fringed by shaggy hairs. It may, however, be a small variety of that species.

DEUTZIA STAMINEA. *Wallich.* A hardy deciduous shrub, with white flowers, from the Himalayas. Belongs to the Order of Syringas (*Philadelphaceæ*).

It is stated by Dr. Wallich that this plant grows on the highest mountains of the great valley of Nepal, and in the province of Kamaon. Dr. Royle speaks of it as being common in Mussooree, and apparently well suited to English shrubberies. It is a small bush with deciduous ovate-lanceolate stalked leaves, firmly serrated, dull-green and smooth on the upper side, whitish beneath. The flowers are pure white, somewhat larger than those of Hawthorn, in terminal corymbose panicles. The calyx is small, white, with five small triangular teeth. The petals are oblong, and rather crumpled. The stamens have large winged edges produced upwards into a strong tooth. The whole plant has a feeble somewhat balsamic smell. It is a small hardy shrub, growing well in the common garden soil, and easily increased by cuttings of the half-ripened slender young wood; is very pretty and flowers freely in May.—*Journ. of Hort. Soc.*, vol. i.

GREVILLEA ROSEA (*alias* Gr. lavandulacea *Henfrey.*)

Mr. Henfrey has referred this plant to the *Gr. lavandulacea* of Schlechtendahl, described in the *Linnæa*, vol. xx., p. 586, from specimens collected in South Australia by Behr; but if we are to trust the words "folia ferè teretia" and "fructus maturus extus lævis et pubescens" he can hardly be right. We must however allow that the two plants are very nearly alike, and that the supposed differences may be merely accidental.

FITZ-ROYA PATAGONICA. *J. D. Hooker.* A noble evergreen hardy Coniferous tree from Patagonia. Introduced by Messrs. Veitch and Co.

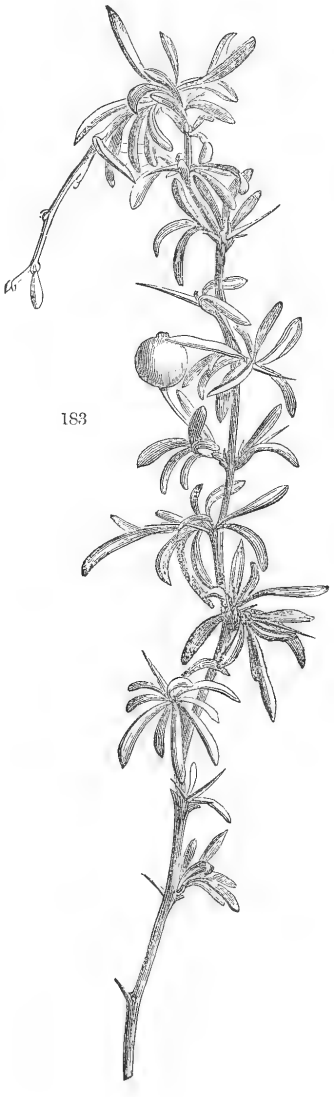
By this name Dr. Hooker proposes to distinguish one of the most magnificent trees in Patagonia. When young,

it is a graceful drooping evergreen shrub, with the habit of *Libocedrus tetragona*, to which it in fact approaches so nearly when old as not to be easily distinguishable unless in fruit. When young, the leaves are very spreading, linear, acute, decussate, narrowed at the base, flat, with two glaucous lines on the underside. When old they become triangular, sessile, closely imbricated scales, with very little appearance of glaucousness. The female flowers are little terminal stellate cones, remarkable for having the axis terminating in three soft clavate glands, or abortive scales. I have not examined them very carefully, but Mr. B. Clarke, with whose notes and sketches of this plant Sir W. Hooker has also favoured me, describes the fruit as consisting "of nine scales, three in a whorl. The lower three, which alternate with the uppermost leaves, are barren; the intermediate three only are fertile; the three uppermost alternate with the fertile and are flattened, but stand with their edges outwards. Each fertile scale has three erect seeds, surrounded by a broad wing, and ending in a narrow neck; the central seed is attached to the scale, the two lateral to the axil; sometimes two seeds are on the scale, and three on the axil." *Saxe-Gothæa conspicua*, *Fitz-Roya patagonica*, *Libocedrus tetragona*, and *Podocarpus nubicola* are, no doubt, the four most interesting Conifers for this country, after *Araucaria imbricata*, which South America produces.—*Journal of Horticultural Society*, vol. vi.

Berberis empetrifolia, var. cuneata. A dwarf narrow-leaved evergreen bush, of little beauty, with solitary deep yellow flowers. Native of Patagonia and South Chili. (Fig. 183.)

From the country lying between the Straits of Magellan and the Cordillera, near Valparaiso. A little trailing bush, with stiff three-parted spines, and linear pungent leaves, not unlike those of *Genista anglica;* bright green, clustered, and about an inch long. From their axils appear, in the month of May, a few bright yellow flowers, growing singly or in pairs, on stalks shorter than the leaves. This is an humble plant, suited for rock-work in a mild climate, but among the less valuable of the genus. According to Dr. Hooker, it is confined to the Cordillera, and characteristic of a dry climate.—*Journal of Horticultural Society*, vol. v., p. 1.

The specimen here represented belongs to the broad-leaved variety called *cuneata* in the gardens.



183

Phalænopsis antennifera. *H. G. Reichenbach, f.* This is another of the somewhat numerous additions that within the last few years have been made to the previously limited, but beautiful, Moth Orchids. The flowers have much the appearance in form of *P. Esmeralda*, but are different in colour to that species. It will no doubt succeed under the cultural conditions found adapted to the generality of *Phalænopsids*, which are a brisk heat during the season of active growth, suspended near the glass so as to get plenty of light, a daily application of water, which is necessary in summer on account of the little moisture-holding material their roots require to run in, a daily admission of air, and a considerable time of rest in winter. It has bloomed with Mr. B. S. Williams.

The chief features are to be found in the three keels of the disk running over the anterior lacinia, in the angles at the base of the column, being remarkably strong; and in the colour of the sepals and petals which is light rose, and the tips of the sepals which are brick-red outside. The contrast of the orange-red striped side lacinia with the middle one which is of the purest amethyst, is very pleasing.—*Gardener's Chronicle*, N.S., vol. xviii., p. 520.

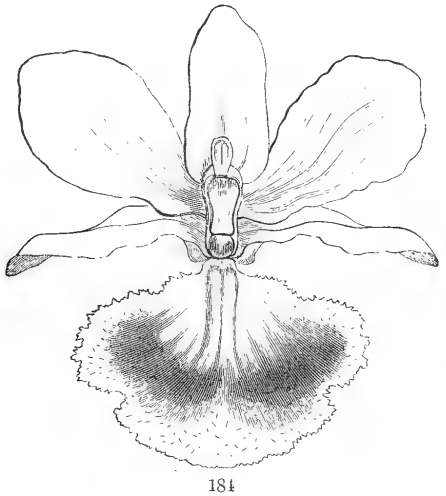
Encephalartos villosus. This fine conservatory plant comes from Natal, and in appearance is not unlike *E. Hilde-*

brandtii, a species which we have already described. Both are amongst the most effective fine-leaved subjects that have been introduced in recent years, and are especially adapted for use in large houses, where their presence never fails to give a pleasing contrast to the ordinary run of either flowering or ornamental foliaged plants. Being yet anything but common in cultivation, there has not been much opportunity of seeing their inflorescence, but recently the male as well as the female cones of the subject of our notice have been produced. Of the former we saw a noble example at Handcross Park, Crawley, Sussex, in the fine collection of plants grown by C. Warren, Esq.

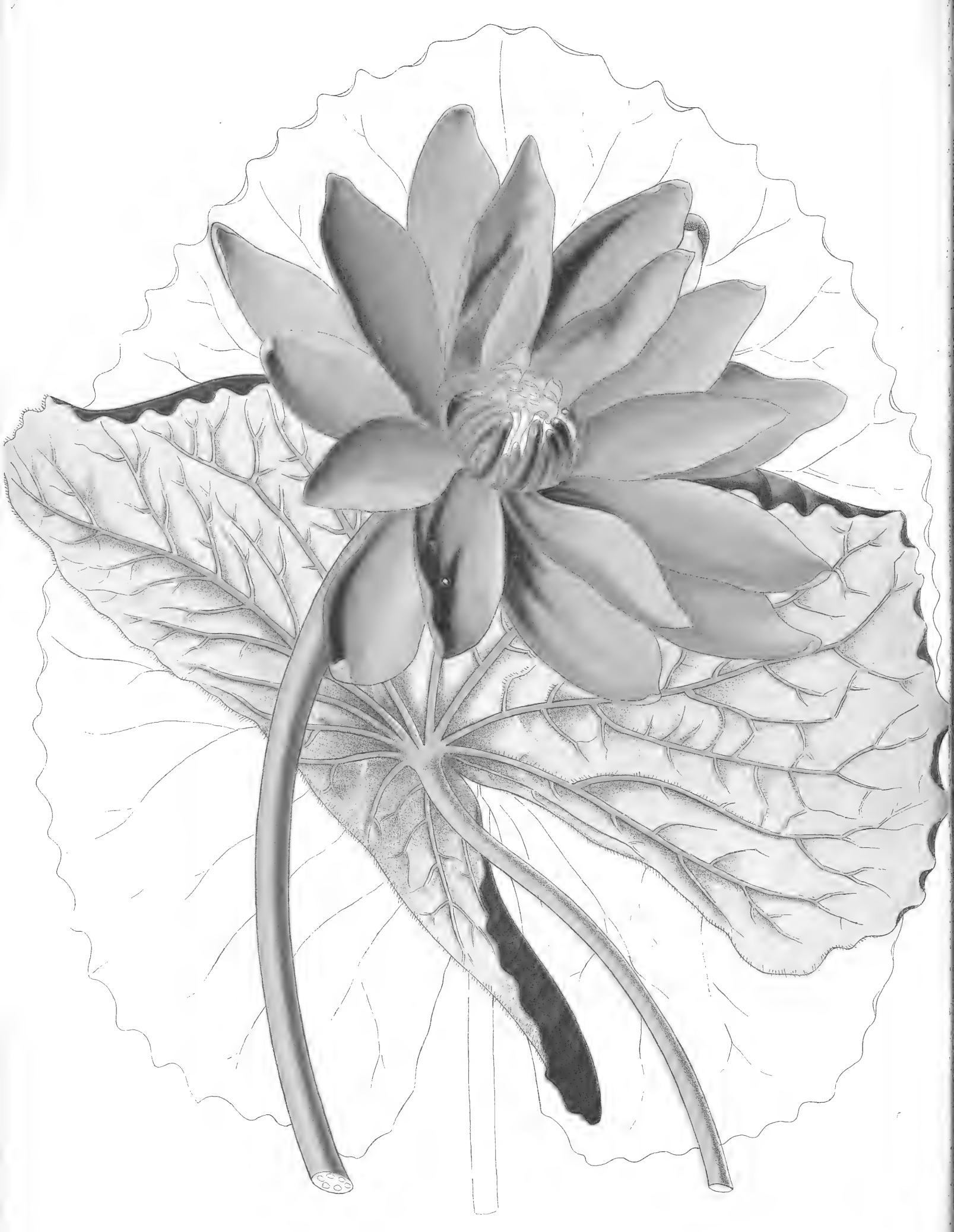
Cones pedunculate. Male cone pale yellow, narrowly cylindric, one to two feet or more long, two and a half to three inches wide; scales spreading, oblong-quadrate to deltoid, apex obliquely deflexed, subpeltate triangular, three-quarters to an inch wide, inferior margin more or less crenate-denticulate. Female cone greenish-orange to apricot-coloured, ovoid-cylindric, as much as a foot and a half long by seven inches wide; scales long-stalked, apex obliquely deflexed, peltate, subquadrangular, about an inch and a half across lower margin, erose-dentate at the middle. Seeds ovoid, somewhat angular, ultimately protruded between the separating scales of the mature cone, about one inch and a quarter long, testa crimson. – *Botanical Magazine*, 6654.

Dendrobium clavatum. *Wallich*, Cat. No. 2004. A magnificent epiphyte with bright yellow flowers and a dark eye. Native of Assam. Introduced by Thomas Denne, Esq. (Fig. 184, a single flower forced open and magnified.)

This very fine plant was received from Assam by Thomas Denne, Esq., of Hythe in Kent, and flowered with him. The stems are terete, from eighteen inches to two feet long. The flowers appear in groups of five in number, in close heads, from among some hard scales; and are separated by large membranous bracts almost as in *D. densiflorum;* when the racemes are full grown their rachis is zigzag, and the broad membranous bracts are full as long as the joints of the rachis. The expanded flowers are about two inches across when flattened, but as the parts spread but little from the column they appear smaller. They are of a rich orange-yellow, with a broad double brown blotch in the middle of the lip. The sepals are much narrower than the petals, which are not at all fringed. The lip, when flattened, is broader than long, slightly three-lobed, round, hairy over all the upper surface, and strongly ciliated, though not fringed at the edge. Mr. Denne most truly says that, "It is certainly the handsomest of the orange Dendrobes, being superior to *D. Paxtoni* in size and texture and also in the markings of the lip, though it has not the fimbriated edge." The affinity of this species is with *D. fimbriatum* and *moschatum*, to the latter of which we were formerly led by bad specimens to refer it as a synonyme. From *D. fimbriatum* it differs in having large membranous bracts, and no deep fringes to the lip. In its bracts it agrees with *D. moschatum*, and in the flowers appearing from within hard scales, but the lip has not the inflexed edge and slipper-like form of that species, and the racemes are much shorter.



184



THE CRIMSON WATER-LILY.
[NYMPHÆA RUBRA.]

[PLATE 65.]

THE CRIMSON WATER-LILY.

(NYMPHÆA RUBRA.)

A Stove Aquatic, from the EAST INDIES, *belonging to the Natural Order of* WATER-LILIES.

Specific Character.

THE CRIMSON WATER-LILY.—Leaves roundish, ovate, slightly peltate, toothed, deeply split at the base, downy on the under side. Flowers crimson. Sepals seven-ribbed. Stigmas fifteen.

Nymphæa rubra: *Roxburgh's Floral Indica*, ii. 576; *alias* Castalia magnifica: *R. A. Salisbury, Paradisus Londinensis*, t. 14.

THIS brilliant aquatic, though an old inhabitant of our gardens, is still a rarity, appearing only in first-class collections. Nor has it been fortunate in the artists who have attempted to fix its likeness on paper; the early figure in the "Botanist's Repository" is particularly unsatisfactory. We have, therefore, gladly availed ourselves of the opportunity of producing a true representation of a fine specimen which flowered at Syon.

Roxburgh merely says of this plant that it is a native of India, flowering during the rainy season, and by no means so common as the *Nymphæa Lotus;* nor do we find other details in the works of Indian writers.

It is probable that more species than one may be included in this name, for Roxburgh mentions a small rose-coloured variety with from twenty to twenty-five stamens, and Dr. Wight figures as *N. rubra* a plant with at least sixty long narrow yellow stamens. Neither of these corresponds with that before us, which we presume to be the common Indian plant; in which we find strongly seven-ribbed sepals, crimson inside, succeeded by broad satiny spreading crimson petals, the central of which are linear, blunt, erect, curved inwards, and gradually passing into the crimson stamens, which they

nearly conceal. The stigmatic apparatus consists of fifteen papillose rays, which are free and smooth at their extremities, curved inwards and fleshy, surrounding a central nipple; as in *Nymphæa alba* and others. To these extremities it is desirable that anatomists should direct their attention, inasmuch as their peculiar construction indicates some very peculiar function. In *Nymphæa alba* they are deep yellow, firm like wax, with a strong even epiderm, and are filled with a soft loose cellular substance, containing an abundance of large coarse scabrous hairs, sometimes half circular, sometimes straight, all placed parallel with the external surface. They are evidently analogous to the scabrous hairs so abundant in the air cells of Nymphæa. The yellow ends of the stigmatic rays of Nuphar do not contain this tissue. Nor is there anything in Victoria, much as that plant abounds in stellate internal hairs, which is identical with the extremities of the stigmatic apparatus of Nymphæa.

Other peculiarities are observable among water-lilies, and are, it must be supposed, connected with their vital functions, although we know not in what way. The pollen, for instance, varies greatly in some of the genera. In *Nymphæa rubra* it is simple, globose, and perfectly smooth; in *Nymphæa alba* it is similar, but the surface is slightly rough. In the yellow water-lily (*Nuphar lutea*), on the contrary, it is covered with such long points that the pollen-grains hold together in masses, like burs. On the other hand in *Victoria*, where the pollen is much larger, the grains are perfectly smooth and constantly grow together in threes or fours.

In the Crimson Water-lily the leaves are closely covered on the underside with a soft felt of delicate hairs, which are quite perceptible to the touch. Examined with the microscope the hairs are found to be simple attenuated smooth cones, with no tendency to branch or become stellate. Not a trace is perceptible on the leaf of those curious perforations in *Victoria* which have been mistaken for stomates, but which in reality are passages through the thickness of the leaf, and are altogether, as far as we know, *sui generis*. We may as well take the present opportunity of saying of these perforations that instead of being stomates, which are also present in *Victoria*, they are formed by a depression of two corresponding points of the upper and under surface of the leaf, and are at first closed by a transverse membrane. After a short time this membrane disappears, and a clear passage through the leaf is thus effected. Possibly this contrivance may be intended to allow the air to escape upwards, that would otherwise collect below the under surface of the leaves in *Victoria* in the spaces included by its deep ribs, and thus prevent that contact of water which may be assumed to be necessary to the health of that extraordinary aquatic.

THE ARIZA PLANT.
(BROWNÆA ARIZA.)

[PLATE 66.]

THE ARIZA PLANT.

(BROWNÆA ARIZA.)

A Superb Hothouse Tree, from CENTRAL AMERICA, *belonging to the* LEGUMINOUS *Order.*

Specific Character.

THE ARIZA PLANT.—Leaves in six or eight pairs, oblong-lanceolate, with long points, usually narrowed at the base, the shorter of the lower couples cordate at the base. Bractlets connate, downy outside, three times as long as the tube of the calyx. Stamens eleven, not so long as the corolla, free from their very base.

Brownæa Ariza: *Bentham in Plantæ Hartwegianæ*, p. 171, No. 961*.

ONE of the finest tropical trees in cultivation, and more especially valuable, because it produces its magnificent heads of scarlet flowers without difficulty. The specimen now figured was obtained from the garden of the Horticultural Society. The collector Hartweg, from whom it came, says that it inhabits woods near Guaduas, in the province of Bogota, at the elevation of 1,400 feet above the sea; that the people call it Ariza, and that it forms a tree from 30 to 40 feet high.

It is nearly related to the *Brownæa grandiceps* of the Caraccas, from which Mr. Bentham distinguishes it by its bracts and flowers being larger, the proportions of the floral organs different, and the stamens wholly distinct from each other. To this an inspection of the living plant enables us to add that the leaflets are larger and flatter, with a thicker texture. The claws of the petals are as long or longer than the lobes of the calyx, of which there are four, not three. The following remarks, applied in the *Botanical Register* to *Brownæa grandiceps*, are equally suited to the Ariza:—

All the species of this genus are stove shrubs, inhabiting the hottest parts of America. Their flowers are produced in a short spike, tier above tier, every day witnessing the

expansion of a new tier above those of the former days, till at last the whole mass becomes a globe of living and glowing crimson. This brilliant head appears on the side of the main stem, among the leaves, which at that time present a singular phenomenon. Every evening they rise up and lift themselves from the blossoms to expose them to the dew, so that each morning these beautiful objects lie uncovered; but as day advances the leaves gradually droop, and bend down over the flowers to guard them from the rays of the sun. Who can imagine the gorgeousness of an equinoctial forest at midnight, with the veils thus lifted off myriads of flowers of every form and hue, all hidden from our gaze by this or other means during the hours of tropical sunlight, whose brilliancy would be death to their tender texture and delicate colours?

This tree must be grown in the damp stove. When its seeds are good they are easily raised if sown in light soil, and plunged in a tan-pit or hotbed. A rich free soil that will not get hard or sour is the best for its after-growth. It is only in a large house that it can thrive well for any length of time, and be seen in its greatest beauty. Then if planted out in the border, or in a large tub with sufficient room for its leaves to develop freely, it forms a magnificent object, not perhaps much inferior to *Amherstia nobilis*.

GLEANINGS AND ORIGINAL MEMORANDA.

ODONTOGLOSSUM MULUS HOLFORDIANUM. A handsome addition to this already popular genus, which is at the present day cultivated by many who give preference to the now numerous cool species of Orchids before those that require a high temperature. And not unreasonably so, as half the enjoyment is lost by the disagreeable hot moist atmosphere that for a great portion of the year pervades the houses in which are located the kinds from warm countries.

An unusually fine variety. The ground-colour of the flowers whitish, with dark purple-brown blotches on the sepals and petals. Lip pure white, with a very light ochre-coloured disk. There is a large pandurate transverse purple spot before the basilar callus in the fore part of the disk, and a similar smaller spot on each side of the middle part, and on the base there is on each side a radiating spot and some small dots and spots on the margins. —*Gardener's Chronicle*, N.S., vol. xviii., p. 616.

SPIRÆA BULLATA. This, we understand, is a Japanese species, of low growing habit, flowered with Messrs. Rodger, McClelland, and Co., of Newry, which, if it does not bloom too early to escape frost, will no doubt be a desirable plant. We mention this as a matter of no small importance, for a kindred species from the same country, *S.* (*Hoteia*) *japonica*, often has its flowers cut off on account of their opening before the spring frosts are over.

A dwarf shrub twelve to eighteen inches high; branches erect, wiry, cylindric, densely clothed with reddish-brown down. Leaves subsessile, half an inch long, quarter of an inch wide, coriaceous glabrous, dark green, and bullate above, paler beneath, ovate oblong crenate, crenations glandular-serrate recurved; nerves pinnate, very prominent on the under surface. Flowers numerous, dark pink or claret-coloured, in much branched dense terminal corymbs. Pedicels short, villose, bracteolata. Flower-tube about one-sixth of an inch diameter, villose, broadly cup-shaped. Sepals suborbicular, with a gland-tipped apiculus, at first as long as or scarcely shorter than the petals. Petals rosy-lilac, oblong-obtuse, shortly stalked, at first scarcely exceeding the sepals, but ultimately twice their length. Stamens numerous, in two rows, free, red, glabrous. Disk thin and glandular. Ovaries five, distinct; ovules pendulous; styles glabrous thickened upwards, pinkish; stigmas capitellate.—*Gardener's Chronicle*, N.S., vol. xviii., p. 680.

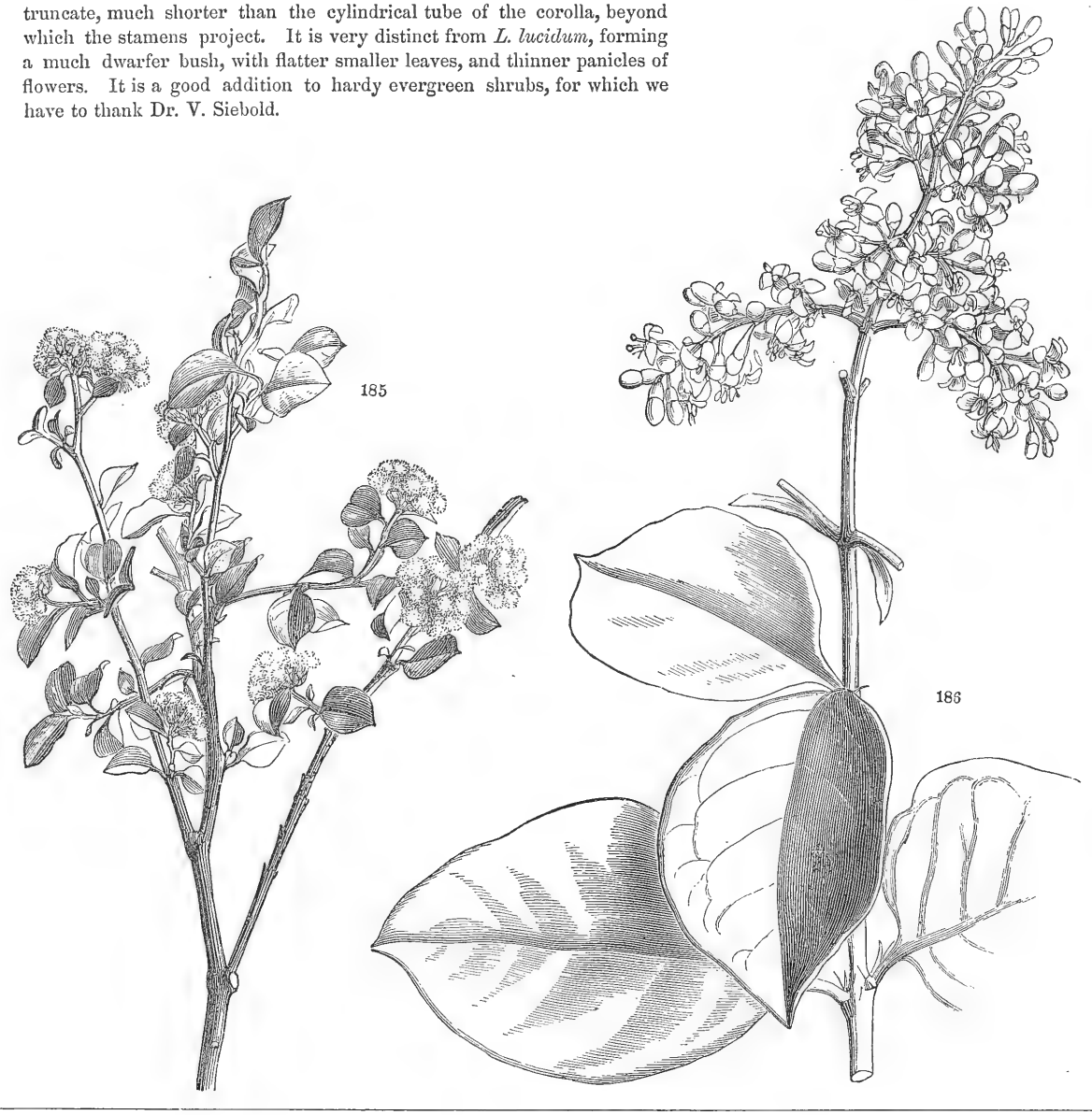
PHALÆNOPSIS SPECIOSA. *H. G. Reichenbach, f.* Somewhat resembling *P. tetraspis*, a very pretty plant, in general appearance, but yet, from a horticultural point of view, sufficiently distinct to make it a desirable addition to the family of Moth Orchids. The leaves are of a much paler shade of green. Like the well-known *P. Lüddemanniana*, to which also it has a considerable likeness, there is much difference in the flowers produced by individual plants. The ground-colour is white, nearly half the surface being covered with bold markings of a reddish-purple shade, much darker in some of the forms than in others. It is a very free-flowering species.

SWAMMERDAMIA GLOMERATA. *Raoul.* An insignificant evergreen half-hardy New Zealand bush, with small clusters of white flowers. Belongs to Composites. Flowers in the spring. (Fig. 185.)

This is a slender straggling naked-branched bush, with a few roundish leaves that are white with down on the underside, and a dull green, or wine-purple on the upper. According to Raoul it is found on the shore at Akaroa, in New Zealand, where it forms a bush two or three yards high. In this country it gives no sign of acquiring such a stature, but appears to be only suited for trailing over rock-work in places where the climate is mild enough for it. As an in-door plant it is not worth keeping.

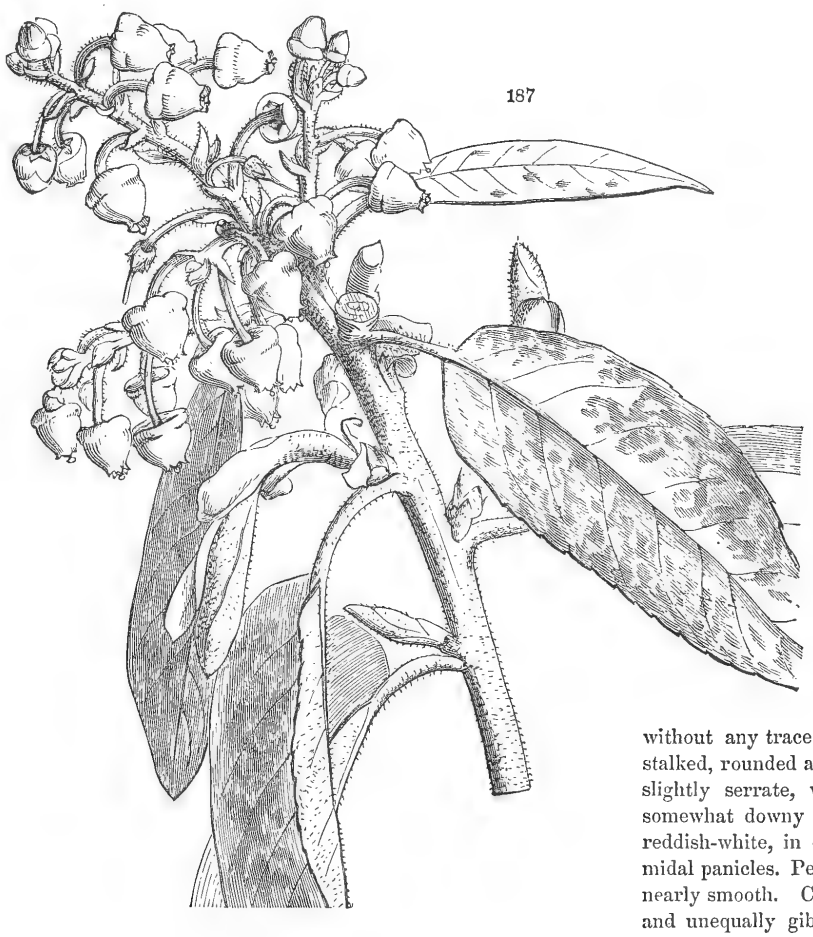
LIGUSTRUM JAPONICUM. *Thunberg.* A hardy evergreen shrub with white flowers, belonging to the Order of Oliveworts (*Oleaceæ*). Native of Japan. Blossoms in July. (Fig. 186.)

A handsome bush, free from hairs in every part. Its leaves are oval, acute, flat, leathery, scarcely shining. The flowers are white, in loose straggling panicles. The calyxes are almost truncate, much shorter than the cylindrical tube of the corolla, beyond which the stamens project. It is very distinct from *L. lucidum*, forming a much dwarfer bush, with flatter smaller leaves, and thinner panicles of flowers. It is a good addition to hardy evergreen shrubs, for which we have to thank Dr. V. Siebold.



ARBUTUS VARIANS. *Bentham* (*alias* A. xalapensis, *Lindley*; *alias* A. mollis, *Hooker*). An evergreen greenhouse shrub, with panicles of white and pink flowers, and dull green leaves hoary beneath. Native of Mexico. (Fig. 187.)

This plant has been well figured in the *Botanical Magazine*, t. 4595, as the *Arbutus mollis* of Humboldt. It had previously found a place in the *Journal of the Horticultural Society*, v. 193, under the name of *A. xalapensis* of Humboldt. Both Sir W. Hooker and ourselves overlooked the undoubted fact that it is the *A. varians* of Mr. Bentham in the *Plantæ Hartwegianæ*, No. 542. *A. xalapensis* seems to have a differently formed corolla, and in *A. mollis* the leaves are downy on the upper side. Sir W. Hooker thus describes the flowers :—



187

"Corolla large, ampullaceous or lageniform, glabrous or downy, white or greenish rose-colour; the lower portion forms an inflated ring, the rest of the tube is hemispherical, tapering into a short contracted mouth; limb of five small rounded lobes."

In the *Journal of the Horticultural Society* it is mentioned in the following terms :—

"Raised from Mexican seed, received from Hartweg in February, 1846, from the mountain of Anganguco. A low, dull brownish green evergreen bush. Branches, petioles, and underside of leaves covered with a short soft down, without any trace of setæ. Leaves oblong, flat, long-stalked, rounded at the base, perfectly entire, or very slightly serrate, with a hard, firm, reddish edge; somewhat downy on the upper side. Flowers dirty reddish-white, in close downy terminal short pyramidal panicles. Peduncles glandular and woolly. Calyx nearly smooth. Corolla ovate, at the base almost flat and unequally gibbous, with a contraction below the middle, and a very small limb. Ovary with a granular surface. This little bush is by no means ornamental. It grows slowly, requires protection in winter, has dull spotted leaves, and remains in flower only for a week or two in April. Although a true Arbutus, it seems to have none of the beauty of its race, and must be consigned to the collectors of mere botanical curiosities."

We are still of opinion that the species has no horticultural value; at least when cultivated in a cold pit it has invariably a dingy rusty aspect, the reverse of beautiful.

FICUS STIPULATA. Most growers are well acquainted with the pretty creeping plant so generally used for clothing walls in our plant-houses, and for which purpose, in places where little else could be made to thrive, it is invaluable, attaching itself as it does like a miniature form of ivy, so as to completely hide the surface to which it clings. Although mostly subjected to stove treatment, it is nearly hardy, thriving well in a greenhouse, which makes it all the more valuable. But though the plant is so much known, comparatively few cultivators have any idea of the character of its fruit,

the annexed description of which was, we understand, taken from an example that was matured in the garden of Mitchell Henry, Esq., M.P., Kylemore Castle, Co. Galway. The plant itself is so well known as not to require describing here, except to mention that the leaves on the fruiting branches are of a different character to those it ordinarily produces.

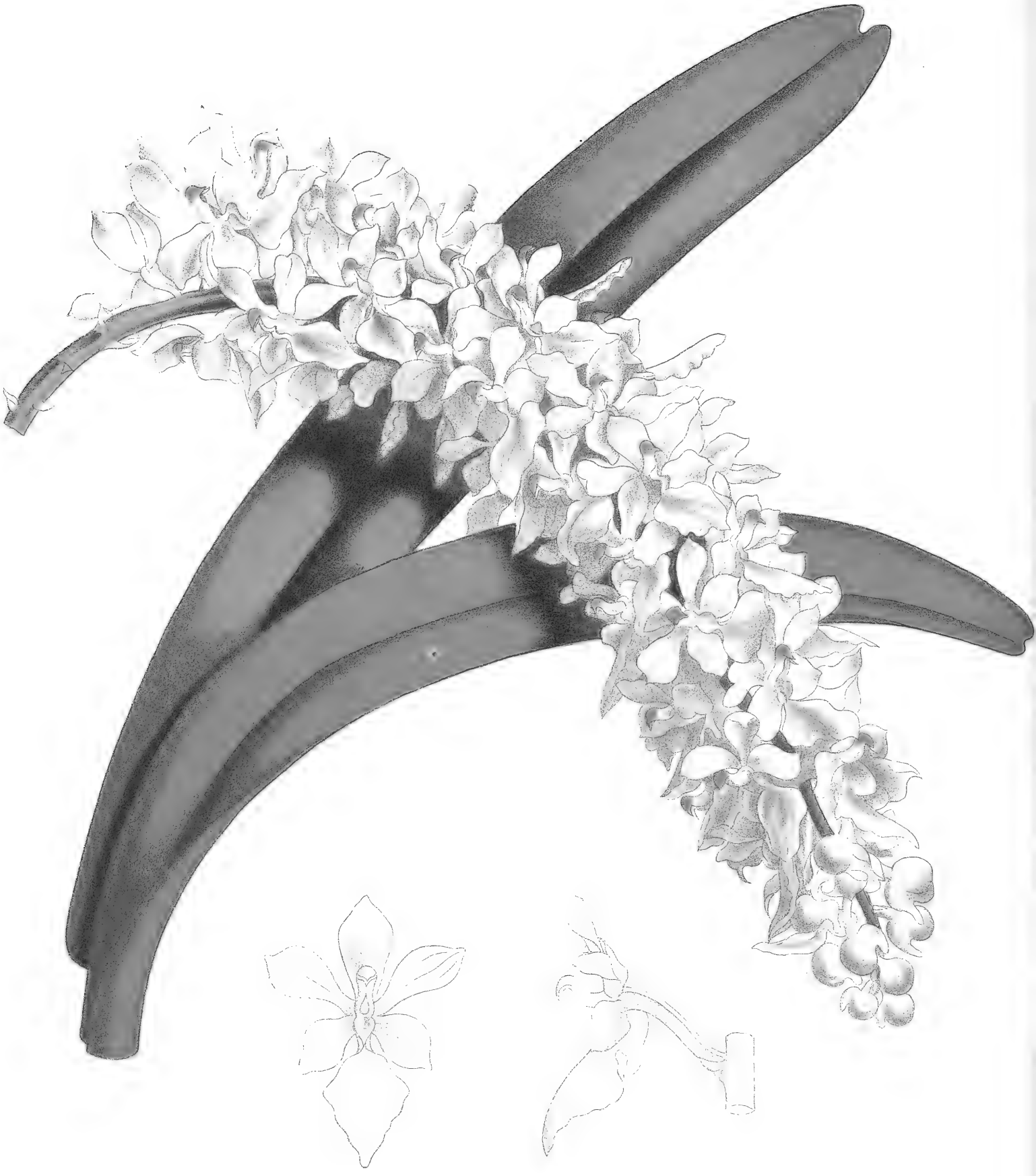
Leaves of fruiting branches three to four inches long, elliptic-oblong, petioled, spreading all round, very coriaceous, obtuse at both ends or rounded at the base, which is triple-nerved, smooth on both surfaces, closely and prominently reticulate, beneath dark green; petiole one-half to two-thirds of an inch long, hispidly hairy, reddish; stipules lanceolate, densely hirsute on the back. Receptacle peduncled, solitary, axillary, pear or top-shaped, two to three inches long, narrowed at the base and tip, obscurely lobed, dark blue or red-purple, appressedly pubescent, at length glabrous, fleshy; bracts at the mouth ovate, acute, spreading, inner surface villous; peduncle as long, very hairy. Flowers, female only seen, pedicelled; perianth-segments four, oblong, obtuse. Ovary obliquely rounded or dimidiate; style either capillary with an acute stigma, or shorter with a peltate stigma.—*Botanical Magazine*, 6657.

Hoya lasiantha. This is a Bornean plant imported some years ago by Messrs. Low, of Clapton, but appears never to have been much known to cultivators. Why this should be so it is difficult to understand, as the family to which it belongs are essentially favourites amongst growers of decorative plants, and when well managed the subject of our notice is very handsome, and quite distinct, flowering freely under the ordinary treatment which the other species from warm latitudes succeed with. It is described as follows by Mr. N. E. Brown, of Kew, from specimens furnished by Messrs. Veitch:—

Stems long, climbing. Leaves opposite, quite glabrous; petioles half an inch long, terete, channelled down the face, with a tuft of hard points at the apex of the channel; lamina five to seven inches long, three to four inches broad, subcoriaceous (rather thin for a Hoya), elliptic, ovate-elliptic or elliptic-oblong, base rounded or sub-cordate, apex cuspidate-acuminate, bright green with some pale greyish blotches and spots above, pale green beneath. Peduncles two to three inches long, glabrous, eight to twelve flowered. Pedicels one and a half to one and three-quarter inches long, half a line thick, glabrous. Calyx lobes oblong obtuse, not extending beyond the sinuses of the corolla. Corolla five-lobed almost to the base, the lobes abruptly reflexed upon the pedicel, with very revolute margins, shining orange-yellow, the basal half densely covered with long soft white hairs. Corona ochreous-yellow, shining, the lobes erect, compressed-ovoid, channelled down the back.—*Gardener's Chronicle*, N.S., vol. xviii., p. 333.

Utricularia Endresii. Those who are acquainted with the beautiful white-flowered *U. montana* will have a vivid idea of this fine plant when we say that for all cultural purposes it is all but identical with the white-flowered species, except in the colour of the flowers, which in the plant under notice is pale lilac, affording an agreeable contrast to *U. montana*. Like *U. montana*, it is epiphytal in habit, its creeping stems clinging to the trunks of trees, similarly to Orchids. From Costa Rica.

Leaves solitary, one to three inches long, petiole about the same length. Scape twice as long as the leaves, slender, erect, wiry, about five-flowered, bearing three to five very slender erect linear or filiform leaves a quarter to half an inch long; bracts about as long, oblong and obtuse, or lanceolate. Flowers drooping; pedicels very slender. Sepals one-half to three-quarters of an inch long, ovate, obtuse, pale greenish or reddish. Corolla one and three-quarter to two inches in diameter, beautifully ciliolate all round, pale lilac with a yellow palate; upper lip nearly rounded, rather cuneate at the base, very much and loosely undulate; lower nearly three times as large, much broader than long, obcordate, or very broadly wedge-shaped with rounded angles, raised along the middle line by a mesial fold reaching to the palate, which is glabrous, almost horseshoe-shaped, with high rounded borders. Spur incurved, shorter than the lower lip.—*Botanical Magazine*, 6656.



THE ROSY AIR-PLANT.
(AERIDES ROSEUM.)

[Plate 67.]

THE ROSY AIR-PLANT.

(AERIDES ROSEUM.)

A Hothouse Epiphyte, from the East Indies, *belonging to the Natural Order of* Orchids.

Specific Character.

THE ROSY AIR-PLANT.—Leaves coriaceous, channelled, distichous, blunt and two-lobed at the point. Spikes dense, recurved. Sepals, as well as the petals, which are longer and narrowed at the base, acute. Lip lozenge-shaped, acuminate, flat, entire, with a short conical incurved spur. Ovary three-winged, as long as the lip.

Aerides roseum: *Loddiges.* A. affine: *Hooker in Botanical Magazine*, t. 4049, not of Wallich.

THIS noble plant for many years was often confused with *Aerides affine,* and was figured as such in the *Botanical Magazine.* It is, however, essentially distinct, as will be shown presently. We first saw it in the possession of Messrs. Loddiges, with whom a dark variety was marked No. 1530, India. Since that time it has appeared in many collections. The specimen now figured was from Mr. Conrad Loddiges.

Among the more important peculiarities of this plant are the following:—Its leaves are leathery, channelled, and roundly two-lobed. The sepals and petals are acute. The lip is perfectly undivided, and tapers to the point. The triangular, or, rather, three-winged ovary, is as long as the lip; and finally the spikes are drooping, or curved below the horizontal line.

On the other hand, *Aerides affine,* of which wild specimens from Dr. Wallich, in all respects agreeing with the figure in the *Sertum Orchidaceum,* are now before us, has truncated leaves, the ends of which are even jagged, of which in *A. roseum* there is no

sign. The sepals and petals are remarkably blunt—almost rounded. The lip is more or less toothletted, not unfrequently even three-lobed, and partially imitating the bluntness of the sepals. The ovary is much shorter than the lip—not half its length; and, finally, the spikes are stiff and erect, by no means drooping gracefully. These differences render it impossible to regard the two plants as mere forms of each other.

Another plant closely allied to these is the *Aerides maculosum*, figured in the *Botanical Register* for 1845, t. 58. This differs in having flowers loosely arranged, larger, more spotted, and generally somewhat panicled. The lip has, moreover, at its base two small flat spreading acute lobes; the same lobes occur, no doubt, in *A. affine* and *roseum*, but they are smaller, erect, and rounded.

Finally, Dr. Wright published an *Aerides Lindleyanum*, with short leaves, short erect racemes, flowers far larger than in the allied species, and a very distinctly serrated plaited lip. Of this fine plant he gives the following account:—

"Leaves fleshy, coriaceous, sub-elliptic, oblong, oblique, deeply emarginate at the apex; racemes erect, many-flowered; sepals and petals obovato-suborbicular, anterior sepals somewhat larger, and, like the lip, thick and coriaceous; lip three-lobed, attached to the point of the prolonged base of the column; lateral lobes small, ovate, middle one large, ovate, ventricose above, crisp on the margins, with a large fleshy lobe at the base, closing the spur; spur short, rigid, inflexed under the lamina; capsules large, obovate, long pedicelled; flowers pinkish-lilac, deeper on the axis, fining off to nearly white on the margins; lip the same, but much deeper coloured. On the clefts of rocks, bordering the Kartairy Falls, below Kaitie; also on rocky clefts on a high hill over Coonoor, flowering nearly the whole year; at least I gathered it in April, and I have it now (November) in flower in pots in Coimbatore."

In order to put these distinctions in a clearer light, we propose the following short technical characters. The species constitute a well-marked division of the genus Aerides, from which many of those now on record will have to be excluded whenever the genus is revised:—

AERIDES §. *Labello plano indiviso, nunc basi auriculato.*

1. A. affine *Wallich, Catalogue*, No. 7316; *Lindley, Sertum Orchidaceum*, t. 15; A. multiflorum *Roxb. Fl. ind.*, 3. 475. (?); foliis apice truncatis nunc dentatis, spicis strictis, sepalis petalisque rotundatis, labello rhomboideo sublobato ovario duplo longiore.

2. A. roseum *Loddiges; Paxton, Fl. Garden*, t. 67; A. affine *Hooker in Bot. Mag.*, t. 4049; foliis apice bilobis rotundatis, spicis cernuis, sepalis petalisque acutis, labello rhomboideo integerrimo acuminato ovario trialato æquali.

Var. A. floribus pallidè roseis immaculatis.

Var. B. floribus atroroseis submaculatis.

3. A. maculosum *Lindl. in Bot. Reg.*, 1845, t. 58; foliis apice obliquis obtusis, racemis cernuis subpaniculatis, sepalis petalisque obtusis, labello ovato obtuso plano indiviso basi utrinque unidentato tuberculo indiviso interjecto.

4. A. Lindleyanum *Wight, Figures of Orchidaceous Plants*, t. 1677; foliis brevibus apice obliquis obtusis bilobis, racemis paucifloris strictis, sepalis petalisque carnosis obtusis, labello ovato acuto serrato plicato basi auriculo acuto crasso utrinque dente magno carnoso inflexo interjecto.

THE CHINESE PLATYCODE
(PLATYCODON CHINENSE.)

[PLATE 68.]

THE CHINESE PLATYCODE.

(PLATYCODON CHINENSE.)

A Half-hardy Herbaceous Plant, from the Southern Coast of CHINA, *belonging to the Order of* BELLWORTS.

Specific Character.

THE CHINESE PLATYCODE.—Glaucous, erect. Leaves ovate, finely serrated as far as the point. Flowers racemose. Stigmas five. Capsule hemispherical.

Platycodon grandiflorum : *Lindley in Journal of Horticultural Society*, vol. i., p. 305, not of Alphonse De Candolle.

THIS is the finest herbaceous plant obtained for the Horticultural Society in China by Mr. Fortune; but it requires skilful management to gain the beauty of the specimen represented in the accompanying plate, which was prepared in the Chiswick Garden. It is there cultivated in a pot, filled with peat loam and sand, the first and last in excess, exposed freely during the summer under the slight shade of a low wall, and in winter kept dry in a cold frame. Thus managed it produces fine straight stiff branches from two to three feet high, bearing several large deep blue flowers in succession at the end, and ripening seed in some abundance.

The roots are perennial, fleshy, and connected with a stout neck, where the buds are seated, from which the stems are annually produced. The latter are unbranched, glaucous, with a purplish tint, and covered with leaves from the base to the setting on of the flowers; every year they drop out of the neck (disarticulate) by a clean convex scar, which consequently leaves a concavity or socket in the neck, into which water must never be allowed to penetrate. The leaves are firm, ovate, nearly sessile, deep green above, glaucous beneath, and edged with purple; their sides are

finely and equally serrated from near their base to near the point. At the ends of the shoots come the flowers, in a retrograde manner, the uppermost flower appearing first, and others afterwards in succession downwards, so that the lowest flower opens last, the inflorescence therefore being what Botanists called centrifugal. Each flower is seated on a round glaucous stalk, terminated by a smooth hemispherical ovary, bearing 5 upright narrowly triangular teeth. The corolla varies in size from $1\frac{1}{2}$ inch across in ill-grown specimens, to nearly 3 inches in the most vigorous flowers; it is of a deep rich violet-blue, shaped like a balloon before expansion, and like a basin cut half way down into 5 regular sharp triangular lobes when expanded. The capsule opens at the point into 5 loculicidal valves, which are opposite the lobes of the calyx, the cells being consequently alternate with the lobes. The seeds are largish, black, oblong, smooth, and winged on one side.

The first knowledge we had of this plant was from finding it among some dried specimens collected by the Rev. G. H. Vachell, about the neighbourhood of Macao, and the islands adjacent, in December, 1829. Mr. Fortune brought it from Chamoo. At first we took it for a mere variety of the large-flowered Platycode, originally figured by Gmelin, from Siberia, under the name of "Campanula foliis lanceolatis glabris, inæqualiter dentatis, utroque extremo integris, ramis unifloris terminantibus;" and under that name it has become dispersed through our Gardens. But a further acquaintance with the Chinese plant, and a comparison of it with a wild Dahurian specimen, has satisfied us that it is really quite distinct. The Russian plant is described as having a weak stem, unable to sustain itself erect ("caule surgit simplici pro ratione tenui, hinc inde flexuoso"—*Gmelin*), which is exactly what was found when it was formerly cultivated in our Gardens; this, on the contrary, has stiff stems, with almost a woody texture. Then the large-flowered Platycode has but one flower at the end of the stem ("in summitate flos insistit speciosissimus") or at the most two; on the contrary our species always has a long raceme, and will even sometimes branch, as is apparent from Mr. Vachell's evidence. Moreover, in the first, the capsule has the form of an inverted cone, in the last it resembles a hemisphere or half egg. We are therefore obliged to distinguish it by a new name.

There is a semi-double white variety, figured in the Journal of the Horticultural Society. Both produce seed, by which they may be propagated.

GLEANINGS AND ORIGINAL MEMORANDA.

DENDROBIUM RIMANNI. *H. G. Reichenbach, f.* A distinct species from the Malay Archipelago, discovered by M. Rimann, one of Mr. Sander's collectors. It is thus described by Professor Reichenbach :—

A stately Dendrobe of the section *Stachyobia antennata*, which have the petals antenna-like, longer than the sepals. It is nearest *Dendrobium Mirbelianum* (Gaud.), Lindl. Stems cylindric to fusiform, furrowed on the superior half with a few broad oblong very coriaceous leaves, like those of *Cattleya Forbesii*. Raceme a little zigzag, with short acuminate bracts. Flowers equal in size to those of *D. speciosum*. Lateral sepals nearly falcate and bent downwards, like the teeth of a Dinotherium. Sepals yellow inside, striped with purple outside. Petals yellow. Lip white, with purple reticulations. Leaves oval, three and a half inches by two and a half.—*Gardener's Chronicle*, N.S., vol. xviii., p. 680.

HUERNIA OCULATA. Most of the species of these with which we are acquainted in their appearance much resemble the Stapelias, to which they are nearly allied. Looking at the full face of the flowers of the plant under notice, one is forcibly reminded of those of the florists' Alpine section of Auriculas ; the outer limb of the flower with its deep purple belt is so distinctly defined from the white colour of the tube. It is a native of Dammara Land.

Densely tufted, branching from the base, pale green, soft ; branches three to four inches high by one-half to three-quarters of an inch broad, five-angled, quite smooth, sinus deep between the angles, acute at the base ; angles compressed, produced into soft spine-like teeth one-third to half an inch long, that are broad at the base and straight or curved. Flowers in small lateral few-flowered cymes ; pedicels short, glabrous. Calyx segments one-third of an inch long, subulate. Corolla nearly one inch in diameter, tube almost hemispherical, rounded at the base ; limb short, spreading, five-toothed, the teeth short triangular acute remote, with a minute intermediate tooth ; the tube is white inside, the limb deep violet-purple, sharply defined in a circle against the white of the tube. Column short ; outer corona adnate to the base of the column, spreading horizontally from it, five-lobed ; lobes fleshy, rounded, quite entire, concave on the surface, inner corona of five large subulate fleshy papillose teeth inserted one at the back of each anther, inflated over the stigma and meeting at their points. Anthers truncate ; pollen masses pyriform, caudicle short ; gland with two subulate auricles. Stigma discoid, five-angled.—*Botanical Magazine*, 6658.

NYMPHÆA ELEGANS. *Hooker*. A charming greenhouse aquatic, with very pale violet sweet-scented flowers. Native of New Mexico. Introduced at Kew.

This has been discovered in New Mexico by Dr. Wright. Its nearest affinity, perhaps, is *N. ampla*, *Botanical Magazine*, t. 4469. Our plants flowered in the early summer in the tank of the tropical aquarium. The blossoms are not only elegant in form and colour, but fragrant also. It will be difficult to say to which of the divisions of De Candolle this will belong. It is very different from any of the section "Cyaneæ," though its purplish-blue tint would indicate an affinity with that group. One of the most remarkable circumstances in the flower of this plant consists in the arrangement of the stamens in (apparently) as many phalanges as there are lobes to the stigma. I had not the opportunity of observing if, at a late period of inflorescence, they separated. Leaves floating, about six inches long, and four and a half or five broad, thus nearly orbicular, plane, the margin sinuated and subdentate ; the upper surface dark green,

the under purple, especially towards the margin; both sides spotted and streaked with black, the under side most spotted; the base of the leaf is cut nearly to the petiole into two straight or slightly diverging rather acute lobes, the sinus long and narrow. Petiole terete, smooth. Scape terete, smooth, rising erect, almost a foot above the water, and bearing a fragrant flower at the top, nearly the size of our common white water-lily (*Nymphæa alba*). Calyx of four, spreading, oblong, obtusely acuminated sepals of a pale green colour, yellowish at the base, marked with numerous short streaks of deep brown. Petals twelve to fourteen, nearly of the same shape as the sepals, uniform or nearly so, yellowish white, tinged with purplish blue. Stamens numerous, deep yellow, inner ones short and without any appendage to the anther, outer ones much larger; the filaments broad and subpetaloid; the anther terminated with a callous white point. The stamens in the fully expanded flower approximate in phalanges or bundles, apparently corresponding in the number of the bundles with the rays of the stigma. Ovary turbinate, bearing the petals. Stigma deep yellow, downy, about fifteen-rayed, under each ray a blunt glabrous tooth projects.—*Botanical Magazine*, t. 4604.

EPIDENDRUM PATENS. *Swartz.* A hothouse Epiphyte from the West Indies and Guatemala, with pale ferruginous or yellowish flowers. Introduced by G. M. Skinner, Esq. (Fig. 188: *a*, a reduced sketch; *b*, a magnified flower.)

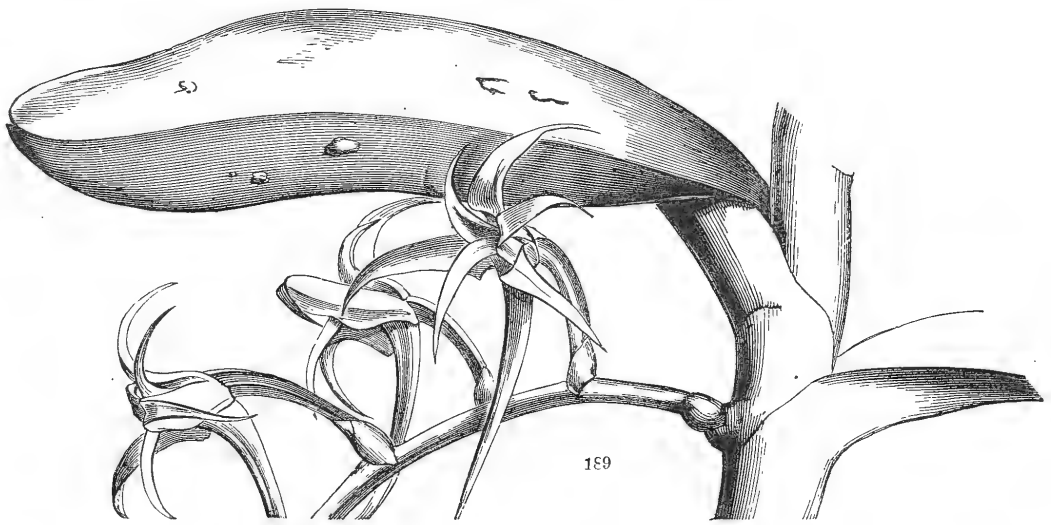
It grows about a foot high, with a slender stem clothed with oblong coriaceous distichous leaves. The raceme, which is terminal, is about nine inches long and is perfectly pendulous, bearing thirteen or fourteen flowers, of a pale rusty yellow colour, and about 1½ inches across. The sepals are thicker in texture than the petals, and somewhat darker. The lip is thin, roundish, four-lobed, with a slight central elevated line, and a pair of thin tubercles at its base; the lateral lobes are rounded, somewhat hatchet-shaped, and very much larger than the two in front, which are divergent. The accompanying drawing was made in the garden of the Horticultural Society. A good coloured figure of a small specimen is to be found in the *Botanical Cabinet*, t. 1537.

LASTREA PROLIFICA. *T. Moore.* In this we have a very desirable Japanese Fern that will live out of doors. It is represented to be quite hardy, and will on this account be so much the more welcome to the cultivators of these charming plants. Its distinct appearance from the general run of Ferns that succeed out of doors is another reason for its becoming popular, which it will no doubt be when it is better known.

It has a short stoutish decumbent caudex, clothed with dark brown narrow lanceolate scales. The fronds (those grown in the south of Europe) have a stipes of about six inches long, and a lamina of over a foot; they are leathery in texture, and triangular in outline, distant in the setting on of the parts; bipinnately almost tripinnately divided at the base, with the upper surface dark green and the under side furnished with "cystoid" scales. The secondary rachides, which bear pinnules of unequal size and form, are often densely clothed with plain or "cystoid" scales. The pinnules on the upper side are smaller, and set-on nearer to the primary rachis; the under surface is closely occupied on every portion with sori, which are covered with reniform indusia, these being red in the centre and lead-coloured at the margin.—*Gardener's Chronicle*, N.S., vol. xviii., p. 744.

ANGRÆCUM ARCUATUM. *Lindley.* A white-flowered Epiphyte from the Cape of Good Hope. Blossoms in July. Introduced by Messrs. Veitch and Son. (Fig. 189.)

The Cape of Good Hope is not the place from which we should expect to receive Epiphytes, the numerous Orchids of that country being nearly all strictly terrestrial. Nevertheless a small number of such species are known to botanists chiefly through the discoveries of M. Drège, an indefatigable German collector. These plants all come from a jungly swampy district lying far to the east of Cape Town, and extending northwards at the back of Algoa Bay. There, in the district of Albany, this plant grows on trees; at a place called Kopje, on limestone hills, it also appears, growing on the roots of shrubs. It has a stiff hard stem, from two to six inches high, clothed with tough, leathery,



189

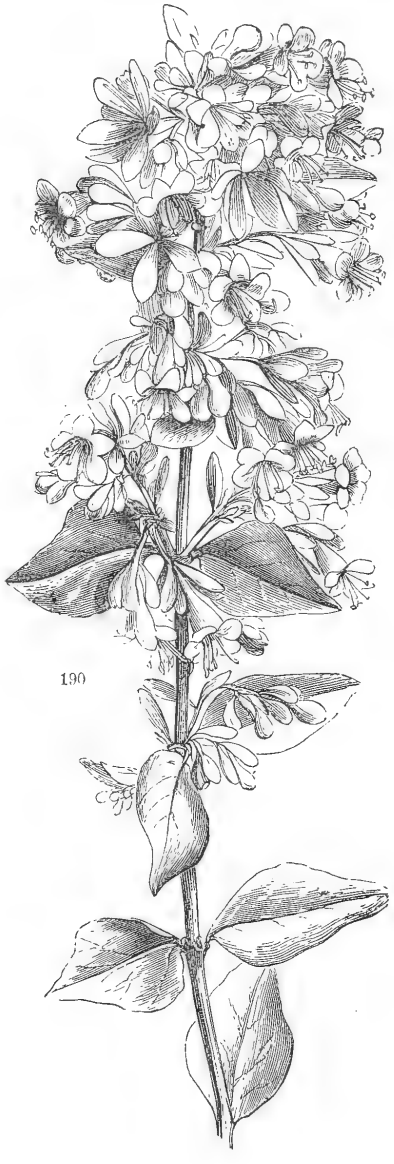
distichous leaves, bluntly and unequally two-lobed at the point. The flowers, which are pure white, appear in lateral horizontal racemes, each proceeding from a broad membranous bract, which is about as long as the internodes. The sepals, petals, and lip are almost exactly alike in form, linear, taper-pointed and reflexed; the spur is a long, tapering, blunt horn, which is much longer than the lip. In this, as in other plants referred to the genus Angræcum, the pollen masses have each its own long narrow caudicle.

CATHCARTIA VILLOSA. *J. D. Hooker.* A beautiful annual (?) from Sikkim-Himalaya, with large yellow flowers. Belongs to Poppyworts. Introduced at Kew.

The following is Dr. Hooker's character of this new genus:—Calyx diphyllus, foliolis æstivatione imbricatis, caducis. Corollæ petala 4, subrotunda, hypogyna, decidua. Stamina 25-30, hypogyna: filamenta filiformia gracilia; antheræ terminales, oblongæ, biloculares, loculis latere longitudinaliter dehiscentibus, connectivo interposito. Ovarium cylindraceum, 5-6-sulcatum, uniloculare. Ovula numerosa, in placentas filiformes 5-6 intervalvulares demum liberas, anatropa. Stigma amplum, sessile, hemisphæricum, carnosum, ovario latius, persistens, 5-6-radiatum, radiis lamelliformibus. Capsula erecta, stricta, siliquiformis, teres, unilocularis ad apicem, infra stigma persistens, fere ad basin 5-6-valvis, valvis linearibus; placentis filiformibus liberis ad apicem stigmati unitis. Semina numerosa, ovalia, compressa, scrobiculata, strophiolata, subcristata.—Herba annua vel biennis ex Himalaya orientali, pilis longis fulvis patentibus villosa. Caulis teres, subsimplex. Folia inferiora, radicalia præcipue, longe petiolata, cordata, subpalmatim

seu pedatim 5-loba, lobis lobulatis, foliis superioribus sessilibus, supremis pinnatifido-lobatis. Pedunculi terminales axillaresque. Flores cernui. Calyx hirsutus. Petala flava, magnitudine Papaveris Rhœadis. Antheræ aurantiacæ. Stigma viride.

"Found in Sikkim-Himalaya by Dr. Hooker, and reared in the Royal Gardens from seeds sent by him in the winter of 1850-1. It flowers in June, and may be treated as a hardy annual, the seeds ripening in July. The long, shaggy, fulvous hairs and bright yellow flowers give it a handsome appearance. In its foliage it differs remarkably from any of the *Papaveraceæ* with which I am acquainted, and no less in the fruit. It has the stigma of *Papaver*, while the mode of dehiscence corresponds rather with that of *Roemeria*. We cannot question its forming a new genus, which is named by Dr. Hooker in compliment to J. F. Cathcart, Esq., B.C.S., late Judge of Tirrhoot, who, during a residence at Darjeeling, devoted his whole time to the illustration of the botany of that neighbourhood, and superintended the execution, by native artists, at his own expense, of a collection of upwards of 700 folio coloured plates of Himalayan plants. These drawings, which are of great botanical value, and embrace a multitude of new plants and others of the greatest beauty and rarity, are, by the liberality of their possessor, placed at Dr. Hooker's disposal for the illustration of the Botany of Sikkim. This new Papaveraceous plant was raised from seeds received from the elevated regions of Sikkim-Himalaya.—*Botanical Magazine*, t. 4596.



190

ABELIA RUPESTRIS. *Lindley*. A fine dwarf shrub, found amongst rocks on the Chamoo Hills of China. Flowers white. Belongs to Caprifoils. (Fig. 190.)

A small spreading bush, with deciduous, bright green foliage. The branches are very slender, covered with fine down, and deep reddish brown, when fully exposed to the sun. The leaves are opposite, ovate, distantly serrated, on very short stalks, quite smooth except at the midrib on the under side, where they are closely covered with short hairs. The flowers are pure white, something like those from the honeysuckle, and come in pairs from the axils of leaves belonging to the short lateral branches. At the base of the ovary stand three very small bracts. The ovary itself is slender and downy, surmounted by a calyx of five obovate ciliated sepals, which are slightly stained rose-colour, and rather membranous. The corolla when expanded is half an inch long, funnel-shaped, downy, with a spreading border of five convex ovate blunt equal lobes, beyond whose tube extend four smooth filaments. The plant is distinguishable from *Abelia chinensis* of Brown by its want of involucre, smooth leaves, and not trichotomous flowers; and from the *Abelia serrata* of Zuccarini and Siebold by its five-leaved calyx. It has hitherto been treated as a greenhouse plant, but will probably prove hardy enough to stand out of doors in mild winters. The soil which appears most suitable is rough sandy loam, mixed with a little peat. Being of free growth, an ample supply of water is necessary during the summer season. In winter nothing different from the general treatment of greenhouse plants is required. It is propagated from cuttings of young wood, in the usual way. From its being sweet-scented, and the length of time it remains in flower, this will be of considerable importance as a greenhouse plant; and should it prove hardy, it will doubtless be a good addition to the shrubbery in consequence of its flowering in autumn. [The foregoing remarks were made in the *Journal of the Horticultural Society* soon after the introduction of this plant. We have now to add, that although a most useful greenhouse plant, it does not prove hardy enough for the open air in the neighbourhood of London.]

PHALÆNOPSIS SPECIOSA (*Rchb. f.*), VAR. IMPERATRIX (*Hort. Berkeley*). We have not seen this plant, as it is remarkably scarce, but from what we hear it is much handsomer than

the type species; the flowers, destitute of the white ground-colour present in *P. speciosa*, being wholly of a dark reddish-purple colour. When it becomes more plentiful it will doubtless be eagerly sought after by those interested in Orchid culture.

CAPSICUM CEREOLUM. *Bertoloni.* A very pretty South American half-shrubby plant, with bright yellow waxy fruit. Belongs to Nightshades. Introduced by Messrs. Veitch and Son. (Fig. 191.)

We presume that this is the plant which Professor Bertoloni thus named in his account of new plants in the Garden of Bologna; but we have never seen that work. At all events the name is a happy one, and the short definition in Walpers is strikingly applicable. It is a very neat-looking pale-green half-shrubby plant, with oval leaves always tapering to the point, and at the base sometimes rounded, sometimes acute and oblique. They are

191

downy all over, especially at the midrib on the under side where they are woolly. The fruit is curved backwards, conical, very sharp, a little contracted in the middle, of a clear bright lemon-yellow colour. The calyx of the fruit is circular (or truncated), with five obscure very short teeth. It is quite distinct from any of the species before in cultivation, and forms a gay and useful ornament of the greenhouse during summer and autumn. *C. cereolum* is said to be from Brazil; this is, we believe, the result of Mr. Lobb's collections on the west coast of South America.

ARAUCARIA COOKII. *R. Brown.* A very large greenhouse Coniferous tree from New Caledonia. Introduced by Mr. C. Moore.

In the year 1850 Mr. Charles Moore, the Superintendent of the Botanic Garden, Sydney, was enabled to pay a short visit to New Caledonia and the neighbouring islands of the South Pacific, in H.M.S. "Havannah;" and, notwithstanding many difficulties, succeeded, through the very great kindness of Captain Erskine, in collecting and bringing safe to Sydney a considerable number of very valuable plants, seeds, and specimens. Some of them have been brought to England by Captain Jones, of the "St. George" merchantman; and among them the plant at the head of this article, which grows abundantly on the islands of Aniteura, New Hebrides, and New Caledonia. In a memorandum that accompanied the plant received by the Society, Mr. Moore remarks that the tree is "apparently distinct from *A. excelsa*. It differs from that species in having a more compact habit when old, and in being less rigid and more graceful when young, in the scales of the cone having a longer and more reflexed mucro, and in their gibbous, not wedge-shaped form, as in *A. excelsa*. In the island of Aniteura this plant has become scarce, the English traders having cut it down for ships' spars. I only saw one plant, and this was '*tabooed*,' or rendered sacred, by the natives; but in New Caledonia, on the south-east coast, whole forests composed of this alone were observed. In such situations the tops are not unlike basaltic columns, and were actually taken for such by the naturalists who accompanied Cook. A coral reef connects the Isle of Pines with that part." Mr. Moore adds, that it is "singular enough the first plant of this, noticed by Cook (described by that navigator, in his account of New Caledonia, 'as an elevation like a tower'), still stands, and is in a flourishing condition. Its appearance now is exactly that of a well-proportioned factory chimney of great height. The cone shows how very distinct this is from either *A. excelsa* or *Cunninghamii*. In addition to the greater length of the reflexed appendages on the scales of *A. Cookii*, to which Mr. Moore has drawn attention, it is to be observed that the scales themselves do not terminate in a hard, woody, truncated extremity, as in those two species, but are wholly surrounded by a thin wing; the effect of which is to destroy the knobby appearance of their cone, and to give it a softness and evenness peculiar to itself."—*Journ. of Hort. Soc.*, vol. vi.

CALANTHE VERATRIFOLIA. *R. Brown*; var. *australis* (*alias* C. australis *Hort.*) A greenhouse terrestrial Orchid from New Holland, with white flowers changing to buff. Flowers in September. Reintroduced by Mr. C. Moore, Superintendent of the Botanic Garden, Sydney.

This plant was originally found by the late Allan Cunningham in August 1822; whilst on an excursion to the Illawarra, a coast district on the south of Port Jackson, he met with a plant in dark shaded woods, which he introduced to Kew in the following year, considering it a Bletia. It soon afterwards flowered in that collection, and was then ascertained to differ in no material respect from the plant of the Indian Archipelago. Both have been in flower together, and on examination of the two plants, no difference has been discovered, excepting that the Australian plant is not so purely white in the flower as the one from India. Mr. D. Moore of the Glasnevin Gardens, who has recently received live plants from his brother, is of opinion that "the spur is shorter, and the flowers more compact than those of *C. veratrifolia*. The leaves are also shorter and the plant is hardier, having stood in a cool greenhouse all the season and flowered nicely." We cannot however say that the flowers with which Mr. Moore has favoured us exhibit any appreciable structural difference, and we must therefore continue to leave the plant as a mere geographical variety.

COTONEASTER THYMIFOLIA *of Gardens*. A small prostrate evergreen hardy shrub from Gossain Than. Belongs to Appleworts (*Pomaceæ*). Introduced from France. (Fig. 192.)

It is certain that this curious little evergreen shrub is a mere variety of *Cotoneaster microphylla*, next to *C. rotundifolia*, the most beautiful of the Indian Cotoneasters. There appears to be no distinction between the two, nor any difference beyond size. *C. thymifolia* is not half the size of *C. microphylla*, lies flat on the ground like thyme itself, or if upon a stone hardly raises its head above the surface; its leaves are not more than a quarter the size, and are much narrower in proportion, but they have the same texture, surface, point, and hairiness underneath; they are not so generally emarginate, though they are sometimes so; the fruit is much smaller, and so are the petals; it seems to be identical with the Gossain Than specimens distributed by Dr. Wallich under the number 662 of his Herbarium. For rockwork, or similar places, it is quite a little acquisition. For the purpose of placing it securely on record, we add a short technical phrase which will enable it to be distinguished, whether as a species or mere variety:—


192

C. thymifolia ; sempervirens, lucida ; ramis prostratis intertextis, foliis lineari-obovatis obtusis margine recurvis subtùs pubescentibus, pomis subsessilibus solitariis recurvis, petalis inconspicuis.

193

green shrub, with long tubular crimson and yellow flowers. Order uncertain. Introduced by Messrs. Veitch and Co.

DENDROBIUM GIBSONI. *Paxton.* A beautiful Epiphyte from the jungles of India. Flowers rich apricot-yellow, with a purple stain on the lip. Blossoms all the summer. Introduced by the Duke of Devonshire. (Fig. 193.)

Dendrobium (Stachyobium) *Gibsoni ;* foliis acuminatis, racemis nutantibus pendulisque multifloris elongatis, bracteis minutis ovatis obtusis, floribus subcarnosis, sepalis subrotundis basi in cornu brevi connatis, petalis latioribus integerrimis, labello cochleato cucullato obtuso villoso fimbriato.

We do not find a description of this noble plant, common as it is in gardens, under a name given to it some years since by one of us, in compliment to the industrious collector by whom it was first transferred from India to Chatsworth. Nevertheless it is one of the finest of the yellow species, rivalling even *D. clavatum* in brilliancy ; from that species it differs manifestly in its obsolete bracts and much smaller flowers. Its nearest ally is *D. fimbriatum*, with which we have reason to think it is sometimes confounded. Like *D. fimbriatum*, it bears its flowers in long nodding racemes ; their colour is yellow, and they are stained on the inside with a purple blotch in the same manner as those of the plant figured in the *Botanical Magazine* under the name of *D. fimbriatum oculatum*. But the flowers are smaller, between fleshy and leathery in texture, much blunter in the bud, in consequence of the greater roundness of all the parts, and the petals are entirely destitute of the fringe which accompanies those of *D. fimbriatum*.

We find it in our Herbarium from Griffith, gathered on Mango-trees in the province of Tenasserim, with the following note : – " Flores aurei ; labellum cochleato-cucullatum, pulcherrimè fimbriatum, cucullo rubro striato, maculâ atro-sanguineâ ad ejus orificium." The specimen here represented was produced at Chatsworth.

DESFONTAINEA SPINOSA. *Ruiz and Pavon.* A hardy (?) ever- Native of Patagonia. Natural

There is so much resemblance between this plant and a common Holly, that if its leaves were not opposite, it might be mistaken for one when not in flower. Its blossoms, however, which were first produced in Messrs. Veitch's nursery, are almost two inches long, cylindrical, with a scarlet tube and a yellow border. As it naturally produces a great abundance of these brilliant blossoms, it is a most charming plant when in fine condition. According to Dr. Hooker, the plant extends to the Andes under the equator, at the elevation of 12,000 feet, to the level of the sea, in Staten Island, in latitude 53° south. According to Mr. Lobb, it seldom grows more than five feet high; and, from the places in which it is found, he thinks it may be hardy. It will be better, however, to consider it, in most situations, a plant that requires protection in winter.—*Journal of Horticultural Society*, vol. vi.

CATTLEYA LEOPOLDI. *Hort.* A beautiful stove Epiphyte, with brownish yellow spotted flowers and a rich crimson lip. Native of Brazil.

This is a mere variety of *Cattleya granulosa*, with a most brilliant tint of rich purplish crimson in the lip. It is one of the handsomest orchids in cultivation, and seems to have reached us through the Belgians, the first we heard of it being that it had been exhibited at Brussels by Mr. Forkel, gardener to King Leopold at Laeken.

HYACINTHUS FASTIGIATUS. A miniature bulbous plant, with lilac or pale purple flowers that open in the early spring months, having much the appearance of a Scilla. It is no doubt quite hardy, and as such will be welcome to lovers of early flowers. Found in Sardinia and Corsica.

Bulb ovoid, half an inch in diameter. Leaves six or more, subulate, weak in texture, quite glabrous, half a foot long, contemporary with the flowers, rounded on the back, channelled down the face. Scape erect, terete, shorter than the leaves. Raceme few-flowered; pedicels solitary, erecto-patent, the lower ones sometimes longer than the flowers; bracts small, membranous, lilac tinted, deltoid or lanceolate. Perianth bright lilac, a quarter or a third of an inch long; segments oblong-lanceolate, longer than the campanulate tube. Stamens six, inserted in a single row at the throat of the perianth-tube; filaments very short, flattened; anthers oblong, minute, blue after they have shed their pollen. Ovary sessile, globose, with very few ovules in each cell; style long, cylindrical; stigma capitate. Fruit a small globose capsule.—*Botanical Magazine*, 6663.

FALLUGIA PARADOXA. The advent of a hardy plant of sufficient merit to hold a place amongst the host of fine species and varieties already existent is not an every-day occurrence, consequently we hail this Fallugia as an acquisition. Its distinct appearance is also a further recommendation. It will most likely succeed under such conditions as are suited to the generality of plants indigenous to the higher regions of the country it inhabits. Introduced from New Mexico.

A slender bush, two to four feet high, terminal branches long and slender, tapering into long single-flowered peduncles or lax racemes. Leaves fascicled on the branches, one-third to two-thirds of an inch long, bright green above, white and tomentose beneath, margins recurved. Flowers one to one and a half inches in diameter; pedicles as long, very slender, bracteate at the base, and with often one or more bracteoles along their length; bracts and bracteoles small, oblong-lanceolate, appressed. Calyx one-fourth of an inch in diameter; tube turbinate, villous within; lobes ovate acute or two to three toothed at the tip, densely tomentose, with a subulate bracteole at the sinus between each. Petals pure white, orbicular fugacious. Stamens in a triple series at the mouth of the calyx, filaments capillary, half as long as the petals; anthers minute. Carpels numerous, on a minute conical receptacle at the bottom of the calyx-tube; style slender; stigma minute; ovule basal, erect. Ripe carpels lanceolate, silky, ending in capillary feathery styles one to one and a half inches long —*Botanical Magazine*, 6660.

THE HYBRID CRENATE CACTUS
(PHYLLOCACTUS SPECIOSISSIMO-CRENATUS.)

[PLATE 69.]

THE HYBRID CRENATE CACTUS.

(PHYLLOCACTUS SPECIOSISSIMO-CRENATUS.)

A Garden Hybrid Greenhouse Shrub.

THE following is the history of this beautiful production. It happened that the *Phyllocactus crenatus* was in flower in the garden of the Horticultural Society at the same time as a very fine variety of *Cereus speciosissimus* belonging to Lady Antrobus. It occurred to Mr. Gordon to touch the former with the pollen of the latter. In due time a fruit was formed, and *Phyllocactus crenatus* became the mother of a batch of seed which has produced the race of hybrids of which the annexed is a figure.

The seedling selected for representation is probably the finest of the crop, but all the seedlings are much alike, chiefly varying in the deeper or paler colour of their flowers. The effect of the cross has been to form a mule with the stems and in some respects the flowers of *crenatus*, and with the colour, even as far as the well-known violet tinge, of *speciosissimus;* so that the father gave colour and changed somewhat the form of the flowers, while the mother gave general habit.

It is evident that the Cacti mule freely. Many are in our gardens of uncertain origin. Sir Philip Egerton is celebrated for the success with which he mixed them at Oulton Park, and the present case shows that great results may be thus obtained; for this is an example of undoubted beauty. We would, therefore, suggest the advan-

tage of carrying these experiments much further. Why not cross the *Mammillarias* and *Echinocacti* with *Cereus* and *Phyllocactus?* Very singular productions might thus result. But above all why not cross the hardy Opuntias with the brilliant species of our hot-houses? Some Opuntias will stand our winters without any protection near London, and there is no physical reason why they should not become the parents of a race of hardy and very ornamental Cacti, although they have no beauty themselves.

THE [illegible]-LEAVED BROMELIA
(BROMELIA LONGIFOLIA.)

[PLATE 70.]

THE LONG-LEAVED BROMELIA.

(BROMELIA LONGIFOLIA.)

A Hothouse Perennial, from GUIANA, *belonging to the Natural Order of* BROMELIADS

Specific Character.

THE LONG-LEAVED BROMELIA.—Leaves very long, scurfy, with spiny teeth, curved backwards, and extended into a long, linear, bristle-shaped point. Spike globose, nearly sessile, many-flowered. Bracts oblong, roundish, serrulate, with a sharp abrupt point, covered with white meal. Sepals linear-lanceolate, somewhat spiny, mealy, rather more than half as long as the petals.

Bromelia longifolia: *Rudge, Plantæ guianenses*, p. 31, t. 49.

FOR this very fine Bromeliad we are indebted to Mr. Henderson, of the Wellington Road Nursery, who exhibited it at the meetings of the Horticultural Society, as the *Tillandsia* ——— of some manufacturer of garden names. It is a true Bromelia, and was long since published in the work above quoted, with a figure in outline made from a dried specimen collected in Guiana by Martin.

Leaves from one and a half to two feet long, narrow, channelled, tapering to a fine point, coarsely spiny-toothed, white beneath, greyish green, and smooth on the upper side, gracefully curving away from the centre. Head of flowers like a rich rose-coloured cone, standing on a short stalk, with a few narrow crimson spiny bracts at its base, powdered with a white meal. The proper bracts are broadly ovate, concave, cuspidate, finely serrated,

as long as the flowers. Ovary inferior, smooth, shining, sharply triangular, with six placentæ standing in pairs near the inner angles of three double partitions. Sepals keeled at the back, narrow, acuminate, slightly serrated, somewhat mealy. Petals not quite twice as long, erect, pink, obovate, apiculate, naked at the base. Stamens six, equal, as long as the petals. Style somewhat protruded, with three short slightly twisted stigmas.

The species is one of the prettiest of its race, which we are glad to perceive is gradually coming into favour among gardeners. For brilliancy of colour the vegetable kingdom hardly produces anything equal to that of many species of Bromeliads; witness the Vriesias, Æchmeas, Pitcairnias, and Billbergias already in cultivation.

GLEANINGS AND ORIGINAL MEMORANDA.

ANDROSACE FOLIOSA. A pretty and extremely free-flowering species of these interesting plants, from the upper regions—8,000 to 12,000 feet—of the Western Himalaya. The plant, we understand, was raised from seed by Isaac Anderson Henry, Esq., an enthusiastic cultivator of hardy plants, with whom it commenced to flower in the spring of 1882, continuing to bloom all through the summer. In the form of the flowers it is like some of the later introduced Primulas; the flowers appear in closely tufted umbels, are individually about half an inch in diameter, and of a light flesh colour.

Whole plant hairy. Root-stock woody, about the size of a nut, without stolons, sending up one or more short stems, two inches high, red in colour. Leaves two or three inches long, elliptic or elliptic-oblong, obtuse or acute, deep green, hairy on both surfaces, narrowed into a petiole half as long as the blade or longer. Scape solitary, stout, erect, three to five inches high. Umbel many flowered; bracts linear, or obovate, and sometimes leafy in cultivated ones; pedicels one-fourth to three-fourths of an inch long. Calyx lobes oblong or oblong-lanceolate, obtuse. Corolla one-third to half an inch in diameter, pale flesh-coloured; mouth contracted, thickened, greenish; lobes orbicular-obovate, tips rounded. Stamens minute, filaments very short. Ovary turbinate.—*Botanical Magazine*, 6661.

PHALÆNOPSIS SPECIOSA (*Rchb., f.*), VAR. CHRISTIANA (*Hort. Berkeley*). We have not seen this plant, but from the account which Professor Reichenbach gives of it, it will no doubt be an acceptable addition to the numerous species that have in recent years been discovered. In general appearance it will doubtless be like *P. Luddemanniana*, and if it turns out to be as easily managed and as little liable to get out of health as that well-known kind, it is sure to be highly esteemed. The great Orchid authority thus speaks of it:—

This is a charmingly distinct variety—quite a surprise. Instead of the flowers being either blotched or barred with rosy-purple, the sepals and column are rosy-purple, the petals being pure white, giving the plant a most elegant and singular appearance. Sometimes the whole of the flowers on the stem will be the same, but occasionally Nature forgets her pretty fashion, and an odd petal is also rosy-purple.—*Gardener's Chronicle*, N.S., vol. xviii., p. 745.

PRIMULA SIKKIMENSIS. *Hooker*. A yellow-flowered Primrose from Sikkim-Himalaya, with something the appearance of an Oxlip. Flowers in May. Introduced at Kew.

"Among the drawings sent home by Dr. Hooker from Sikkim-Himalaya is one of a yellow Primula of which that traveller relates, 'It is the pride of all the Alpine Primulas, inhabits wet boggy places at elevations of from 12,000 to 17,000 feet at Lachen and Lachong, covering acres with a yellow carpet in May and June.'" It is, perhaps, the tallest Primula in cultivation, and very different from any hitherto described. Stemless. Leaves all from the root, erecto-patent, eight to nine inches to a foot long (including the petiole), obovato-oblong, thin and submembranaceous, but strongly reticulato-venose, not farinose, obtuse, the margin doubly and sharply toothed, the thickened midrib and

nerves prominent beneath, where the hue is paler than above; they taper into a long broad red petiole about equal in length to the leaf. Scape a foot to two feet high, erect, terete, pale green, bearing an umbel of lemon-yellow (rather than golden) flowers, about the size of those of *P. vulgaris*. Involucre of five to seven leaflets, which are sessile, slightly farinose, erect, lanceolate, a little tinged with red, about half the length of the pedicels. These latter are slightly spreading. Calyx tinged with purple, farinose, tubular-oblong, as long as the tube of the corolla, five-lobed about halfway down, lobes erect, rather obtuse. Corolla with the tube as long as the calyx, the limb subcampanulate, the mouth being wide, not at all contracted, naked, the lobes of the limb moderately spreading, roundish, emarginate. A free-growing species, partaking of the habit of the common Primrose, and therefore more permanent under artificial cultivation than the fugacious *Primula capitata* from the same country.—*Botanical Magazine*, t. 4597.

194

SIPHOCAMPYLUS AMŒNUS. *Planchon.* A fine greenhouse shrub from the mountains of Brazil. Flowers rich orange red. Belongs to Lobeliads. (Fig. 194.)

M. Planchon states that this beautiful thing was raised from the earth of a parcel of Orchids sent from Brazil by M. Ghiesbreght. It flowered in the garden of the King of the Belgians at Laeken. The plant is described as more herbaceous than shrubby, with erect, angular, and rather downy branches. The leaves are oblong-lanceolate, bright green, with glandular serratures, having a silky lustre on the upper side, and very minute down on the under. The numerous flowers are arranged in one-sided racemes, are small for the genus, and of a rich orange red.—*Flore des Serres.*

LAPAGERIA ROSEA. *Ruiz and Pavon.* A greenhouse climber, with very large pendulous flowers, rich purple, a little mottled with white. Native of Chiloe. Belongs to Philesiads. Introduced by G. T. Davy, Esq.

A climbing plant from the south of Chili: it is of large growth, and scrambles over bushes in the woods of Chiloe, producing there firm, broad, dark-green leaves, and brilliant, rose-coloured, speckled, pendulous, campanulate flowers, as large as a tulip. In a conservatory where the roots have plenty of room to spread it has flowered with Messrs. Veitch. It would be a great gain to gardens if this plant would prove hardy. Such experience, however, as has been gained is unfavourable to the supposition. Nevertheless, Mr. Lobb is of a different opinion, as will be seen by the following extract from his letters:—"Respecting the hardiness of these things (*Lapageria rosea, Luzuriaga radicans, and Callixene polyphylla*), if you look at their geographical position, it may be assumed that all from the elevated parts of the mainland are hardy, and I think that those from the low grounds will only require sheltered situations. The climate of Chiloe is much like that of Cornwall; it rains almost incessantly in the winter months, but it is never so cold in winter as it is in England. Frost often occurs, but of short duration. Summer is also wet and cold; the thermometer seldom rising beyond 65°; but although the frost is not so severe, the south winds are very cold and cutting, and I am inclined to think that, if anything be required, it will be sheltered situations for those that inhabit the low grounds near the sea."

DORYANTHES PALMERII. This gigantic Amaryllid bloomed in the succulent-house at Kew, in the spring of 1881, where its immense and gorgeous flowers formed a conspicuous

object for several weeks in succession. It is suitable for a large house, where its long recurved leaves and stately inflorescence have room to be seen to the best advantage. Introduced from Queensland.

Leaves numerous, spreading, and recurved, six to eight feet long, four to six inches broad, slightly ribbed. Stem or scape eight to ten feet high, clothed with lanceolate, short erect bracts. Inflorescence three feet long, thyrsoid, compact, of many short few-flowered spikes surrounded by red-brown oblong acute bracts, the inner of which are shorter than the perianth. Flowers scarlet, from the tubular ovary, which is one and a half inches long, to the tips of the segments, which are erecto-patent, narrowly oblong, obtuse, and two inches long. Stamens shorter than the perianth segments, filaments gradually narrowed upwards; anther half an inch long, yellow in bud, then purple. Style deeply grooved, base conical. Stigmas very minute, radiating.—*Botanical Magazine*, 6665.

Pernettya ciliaris. *Don.* A hardy evergreen shrub from the mountains of South Brazil. Belongs to Heathworts. Berries rich deep purple. Introduced by Messrs. Veitch and Co.

In the nursery of Messrs. Veitch there grows in the open air a dark-green low bush, with hard evergreen, ovate, serrated, wrinkled leaves, covered slightly with stiff brown hairs on the under side. The branches are clothed with similar hairs. In appearance it is not unlike *Vaccinium Arctostaphylos*. The flowers grow in numerous erect dense racemes, and are succeeded by piles of deep rich, reddish brown, depressed umbilicate berries, with a smooth calyx, the base of whose sepals is gibbous, fleshy, and hairless. The stalks are, however, hispid, and about twice as long as a smooth, pale, cucullate bract, which wraps round their base. The bush is said to have been obtained from Brazil, but it appears to agree altogether with the *Pernettya ciliaris* of Don, said to be from Mexico, of which I have seen no specimen in the many collections from that country. Mixed with the bright rosy berries of *P. mucronata* and *angustifolia*, this produces a very gay effect in the American border.—*Journal of Horticultural Society*, vol. vi.

Primula involucrata. *Wallich.* A handsome, hardy, herbaceous plant. Flowers white. From the North of India. (Fig. 195.)

When at rest this plant forms a large egg-shaped bud, which may almost be called a bulb. Early in the spring it throws up a tuft of smooth shining leaves, the colour and texture of *Pilewort*, which are immediately succeeded by a scape from six to nine inches high, terminated by three or four white, sweet-scented flowers, which are at first slightly yellow, and when dying acquire a tinge of blush. In form the leaves are long-stalked, ovate, obtuse, wavy, and slightly toothed. The involucre is remarkable for having its base extended downwards into a sheath, in the same manner as in *Thrift*. The corolla is about the size of a cowslip, with a flat border, whose segments are round and two-lobed, and a pink tube which is a little longer than the angular calyx. It is a hardy perennial, growing about six inches high, in a soil composed of sandy loam and leaf-mould. It will flower in the open border about March, but earlier if kept in a cool greenhouse or frame. It is stated by Captain Munro that he collected it at an elevation of 11,500 feet, growing in the neighbourhood of water. A most desirable little plant for rockwork not too much exposed to a hot sun.—*Journal of Horticultural Society*, vol. i.

Eucryphia cordifolia. *Cavanilles.* A very fine evergreen hardy (?) shrub, with broad sessile heart-shaped leaves and large axillary flowers. Native of Chiloe and Patagonia. Belongs to Tutsans (*Hypericaceæ*). Introduced by Messrs. Veitch and Co.

We saw this noble plant growing in the open air in Messrs. Veitch's nursery. It has a stiff hard-wooded habit, with downy branches. The leaves, which sit close together on the stem, are hard, like those of an evergreen oak, from two to three inches long, dark green, oblong, nearly sessile, heart-shaped, with shallow toothings at the edge; on the under side they are covered with a close short felt. The flowers are about as large as a small Camellia, and grow singly in the axil of the uppermost leaves. In his correspondence, Mr. Lobb, who sent the plant to Messrs. Veitch, speaks of it thus:—"The Eucryphia is much like *Quercus Ilex*, and I think will prove hardy. When I left San Carlos it was in full bloom. It is the most showy tree of the country. The hardiness of plants greatly depends on the nature of the wood; for instance, the *Eucryphia cordifolia* is a hard-wooded tree, and would probably stand the winter without injury; while those of a soft-wooded nature, such as *Drymis chilensis*, *Laurus aromatica*, and others from the same locality, would be much injured, if not killed."

Vanda Hookeriana. *H. G. Reichenbach, f.* The exquisitely beautiful flowers of this Orchid have at length made their appearance. After being in the country a good many years, it bloomed, during the autumn of 1882, almost simultaneously in several collections, notably those of Sir N. de Rothschild, Tring Park, and J. S. Bockett, Esq., Stamford Hill; the latter specimen we had an opportunity of seeing. The habit of the plant is so much like that of the well-known *V. teres*, that when out of flower it would be taken for that species in a less vigorous state than usual; the leaves assume the same cylindrical shape, but are somewhat smaller, and of a pale yellowish-green colour. Most likely it will produce its charming flowers as freely as *V. teres*, now that its cultural requirements are better known. *V. Hookeriana* requires plenty of moisture when growing, with close proximity to the glass in a light house, and full exposure to the sun by a total absence of the shading which, until recently, has been by many cultivators supposed necessary for all species of Orchids; acting on which erroneous idea, it is often used to the extent of excluding much of the light, so essential not alone to their flowering, but to their existence in a healthy condition. Like *V. teres*, *V. Hookeriana* does best when attached to a stout piece of wood fixed in the pot in which it is grown, for its aërial roots to cling to. A little sphagnum moss over the crocks with which the pot is partially filled is requisite to keep the lower roots moist. It requires syringing overhead two or three times daily in the growing season, with a regular admission of air in the middle of the day. It is a native of Borneo, and must have plenty of heat, such as is required by other species of Orchids from hot countries.

Sepals rather unequal. The odd one cuneate oblong, wavy, and appears to be bent over the column. Lateral ones nearly of the same shape, but much larger, the medium nerve projects on the outside beyond the margin in a subulate apiculus. Petals spathulate, oblong, blunt, and undulated. When fading, all these organs, which are bent in an elegant manner, are cream-white, with a few crimson-lilac spots. When first I saw them they had a light lilac hue. Auricles of lip nearly triangular, with a thick triangular area, bordered by callous lines. Two blunt calli stand in front of the mouth of the small acute spur. Lip blade large, transverse, trifid, side laciniæ semi-oblong, a little retrorse at the apex, anterior lacinia semi-oblong, all undulate and even lobed. Lip whitish with a light hue of lilac, and covered by numerous fine dark purple-lilac spots, which look exceedingly fine. Column hairy under the fovea, white with a few purple-lilac lines on the back and on the androclinium. The pollen apparatus is that of *V. teres*.—*Gardener's Chronicle*, N.S., vol. xviii., p. 488.

THE THREE-TONGUED ONCID.
(ONCIDIUM TRILINGUE.)

[PLATE 71.]

THE THREE-TONGUED ONCID.

(ONCIDIUM TRILINGUE)

A Hothouse Epiphyte, from PERU, *belonging to the* ORCHIDACEOUS *Order.*

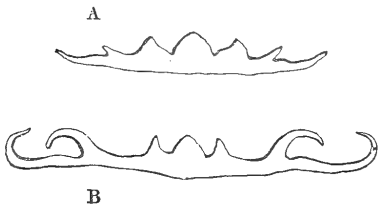
Specific Character.

THE THREE-TONGUED ONCID.—Raceme somewhat twining, panicled at the base. Flowers thin. Bracts oblong, spathaceous, four times shorter than the ovary. Lateral sepals unguiculate, connate at the base, lanceolate, long, wavy; that at the back roundish ovate, crisp, the claw eared at the base and as long as the column. Petals lanceolate, revolute, very crisp. Lip dagger-shaped, crisp, revolute; the segments at the base coarsely toothed, fleshy, ascending, with a very large convex crest, three-tongued in front, having two tubercles behind, a thin plate lying between, and a fleshy tooth on each side. Column smooth, with small bristle-shaped wings.

THIS curious plant is a species of Oncid, with the habit of *O. macranthum*, but with flowers quite unlike anything in our gardens. It is, however, associated in nature with many species of similar habit, having a small fleshy lip, combined with large and unusually unguiculated sepals. They are the Cyrtochils of Humboldt and Kunth, and form a complete transition to the genus Odontoglossum, from a portion of which they in fact differ in nothing except the lip having no adhesion to the face of the column.

The Cyrtochilian Oncids, as these plants might be termed, comprehend eleven certain and two doubtful species, all from the tropical parts of South America, where they grow on trees, and produce long rambling panicles of large brownish flowers variously mottled with yellow and purple; not unfrequently these panicles twine round the neighbouring branches, a property which seems essential

to them in order that their heavy flowers may be supported. The species now figured, which gives a good idea of the habit of many of them, is perfectly distinguished by its short crisp petals, and its singular lip, the callosities upon which are not easy to represent either by words or a drawing. In form the lip represents a long trowel, curved inwards at the edge, and backwards at the point; near its base is planted a pale yellow plate, free at the edges, but extended in the middle into three tongue-like yellow processes (a section of it in front has the appearance of fig. A); near the base the section is like fig. B, in consequence of the yellow plate above described becoming more free from the lip. Towards the base of the three tongues rises on either side a small purplish tubercle; two others stand on the lip at its base; and between the two pairs of tubercles the three tongues rise up into a white triple tooth.



The following memoranda will serve to guide both botanists and collectors to a knowledge of this curious section of Oncidium.

ONCIDIA MICROCHILA—Cyrtochilum H.B.K. L. p. 210.

1. O. trifurcatum *Lindl. in Ann. Nat. Hist.*, vol. xv.; sepalis lateralibus unguiculatis spathulato-obovatis planis dorsali unguiculato rotundato crispo duplò breviori, petalis oblongis crispis dorsali minoribus, labello unguiculato tripartito laciniis linearibus truncatis lateralibus canaliculatis, crista trilamellata, columna tetraptera alis superioribus linearibus carnosis apice abrupte recurvis inferioribus rotundatis tenuioribus, clinandrii dorso in dente antherifero producto, rostello membranaceo bifido. —*Peru* (Hartweg).—I have only seen three flowers of this. They are three inches in diameter; the lateral sepals are whole-coloured, the dorsal and the petals are bordered with yellow (?). It stands near *O. serratum*.

2. O. serratum *Lindl. Sert. Orch.*, sub t. 48; *supra*, vol. i., p. 20, fig. 15; pseudobulbis ovalibus diphyllis, foliis erectis rigidis acutis basi angustatis canaliculatis paniculâ pauciflorâ brevioribus, sepalis serrato-crispatis dorsali reniformi lateralibus multò longioribus obovatis patentissimis, petalis ovatis acutis serrato-crispatis conniventibus, labello multò minore hastato: laciniis acutis intermediâ lineari obtusâ medio constrictâ lateralibus acuminatis 3-plò minoribus, (cristâ depressâ crenulatâ), columnæ alis subulatis ascendentibus.—*Peru*.—This singular plant has large flowers, brown, oblong, smooth, terete pseudobulbs, each having two broad sword-shaped leaves at the point, and several others below the pseudobulbs. The flower-stem is nine feet long, partly twining, with five or six lateral branches, each carrying from four to six flowers near the extremity. These flowers are said to be cinnamon-brown in Peru, with bright yellow tips to the upper divisions. In the fresh flower they have the colour of *Oncidium luridum*, only brighter; but the yellow on the upper half of the delicately fringed and crisped petals is clear and brilliant. It flowered with M. Pescatore at Paris.

3. O. macranthum *L.* p. 205; pseudobulbis ovatis, foliis oblongis obtusis, racemo volubili, sepalis cordatis oblongis obtusis undulatis unguiculatis, petalis æqualibus conformibus paulò latioribus et breviùs unguiculatis, labelli hastati laciniis lateralibus subfalcatis intermediæ acuminatæ æqualibus cristâ trilamellatâ; lamellis apice confluentibus utrinque dentibus duabus runcinatis, columnæ alis rotundatis.—*Guayaquil.*—Flowers three or four inches across. Sepals purplish-brown, tipped with yellow. Petals bright yellow. Lip purple, with a white crest.

4. O. cordatum *Lindl. Sert. Orch.*, sub t. 25; pseudobulbis . . ., foliis oblongo-lanceolatis acutis coriaceis basi angustatis, scapo paniculato ramosissimo, bracteis oblongis cucullatis membranaceis obtusis, sepalis unguiculatis ovatis undulatis, petalis unguiculatis cordatis margine crispis denticulatis, labelli hastati unguiculati lobis angustis acuminatis appendicibus disci petaloideis, columnâ subapterâ.—*Peru; rocks on the road to Pangoa.*—A fine large species, with brown flowers whose segments appear to be bordered with yellow.

5. O. falcipetalum *Lindl. Orch. Linden.*, no. 76; foliis lanceolatis acutis pergameneis 7-9-nerviis, floribus densè paniculatis, bracteis cymbiformibus obtusis, sepalis brevè unguiculatis supremo subrotundo-cordato lateralibus ovato-oblongis obtusis, petalis sessilibus brevioribus oblongis crispis complicatis falcatim recurvis, labello carnoso hastato acutissimo basi utrinque corrugato et lamellis dentatis aucto, columnâ lævi, alis parvis semiovatis unidentatis, clinandrio postice mucronato pubescente.—*Both epiphyte and terrestrial, from the forests of Merida, at the height of* 5000 *to* 6000 *feet.*—Pseudobulbs oval, compressed, two or three inches long. Stem twenty feet long, scrambling. Flowers very large, brown. A noble species, with flowers more than three inches in diameter. Leaves eighteen inches long, one and a half wide.

6. O. trilingue *Lindley in Paxton's Flower Garden;* foliis . . . racemo subvolubili basi paniculato, floribus raris, bracteis oblongis spathaceis ovario quadruplò brevioribus, sepalis lateralibus unguiculatis basi connatis lanceolatis undulatis elongatis dorsali subrotundo-ovato crispo ungue auriculato columnæ longitudine, petalis lanceolatis revolutis valdè crispis, labelli pugioniformis crispi revoluti auriculis grossè dentatis carnosis ascendentibus cristâ maximâ valdè convexâ à fronte trilingui à tergo bituberculato laminâ tenui interjectâ denticulo carnoso utrinque, columnæ glabræ alis parvis setaceis.—*Peru.*—Flowers cinnamon-brown, in a long half-climbing panicle. Lip dagger-shaped, with a yellow crest, consisting of three flat yellow tongues terminating a thin winged plate.

7. O. superbiens *Reichenbach fil. in Linnæa,* vol. xxii., p. 843; "foliis oblongo-lanceolatis, acutis, latis, paniculâ maximâ, bracteis cymbiformibus acutis, sepalo supremo reniformi, unguiculato, basi utrinque auriculato; lateralibus obtusè triangularibus longius unguiculatis, basi pariter auriculatis; petalis subæqualibus, sed brevius latiusque unguiculatis, undulatis; labello triangulari, brevissimè unguiculato, basi utrinque obtusato, apice acuminato, callo cristæformi antice 3—5-dentato in disco, dentibus 2 lateralibus in basi; columnæ alis erectis, retrorsum falcatis, androclinio postice dentato."—*N. Grenada, near Pamplona.*—Discovered by Funk and Schlim in January, 1847. Flowers brown; the lateral sepals yellow, with brown spots. Said to be near *O. halteratum.*

8. O. halteratum *Lindl. Orch. Linden.*, no. 75; foliis ensiformibus tenuibus acutis, racemis laxis longissimis, bracteis cymbiformibus obtusis, sepalis longè unguiculatis supremo cordato-subrotundo lateralibus ovatis obtusis, petalis sessilibus ovatis undulatis obtusis brevioribus, labello carnoso lanceolato acuto subtus carinato suprà cristâ elevatâ etiam carinatâ pubescente aucto basi utrinque dentato, columnæ dorso sub apice glanduloso, alis linearibus retrorsum falcatis.—*Epiphyte from*

the forests of Quindiu, in the province of Maraquita, at the height of 7800 *feet; February.*—Flowers deep yellow. A very fine species. Flowers more than two inches across. Leaves thin, scarcely an inch broad.

9. O. undulatum *Lindl. Sert. Orch.*, sub t. 48; (*Cyrtochilum undulatum* H. B. K., L. p. 210); "foliolis calycinis ovatis undulatis, patentibus."—*N. Grenada.*—Flowers brown, spotted with white and yellow. Lip pink outside, yellow within, variegated with red and white spots. Scape as high as a man, according to Kunth. Quite indeterminable without access to the original specimen.

10. O. flexuosum *Lindl. Sert. Orch.*, sub t. 48; (*Cyrtochilum flexuosum* H. B. K., L. p. 210); "foliolis calycinis undulatis reflexis, exterioribus spathulatis, interioribus obovatis."—*N. Grenada.*—Lip ovate, acute, convex, crested with tubercles at the base. Scape several feet high, much branched, with triangular ramifications, according to Kunth. A mere puzzle without access to the original specimens.

11. O. corynephorum *Lindl. Sert. Orch.*, sub t. 25; (*Cyrtochilum volubile* Pœppig nov. gen. &c. 1. 35. t. 61.); pseudobulbis angustissimis compressis, foliis angusto-lanceolatis acutissimis, scapo ramoso paniculato, bracteis membranaceis subrotundis obtusissimis, sepalis subrotundo-oblongis longè unguiculatis, petalis angustioribus lanceolatis acutis reflexis, labello sessili obovato rotundato: callis baseos depressis apice trinis latere rugosis tuberculatis, columnâ clavatâ alis inflexis.—*Peru.*—The twining scapes are from 15 to 20 feet long. Flowers two inches in diameter. Sepals violet. Petals white, tinged with rose. Lip deep crimson above the middle. Notwithstanding the difference between this character and Pœppig's barbarous figure, I have no doubt it is the same plant as his.

12. O. loxense, *sp. nov.;* paniculâ ramosâ divaricatâ ramulis 2-3 floris, bracteis brevibus ovatis obtusis, sepalis oblongis planis reflexis petalisque paulò latioribus apice rotundatis, labello subrotundo basi sub-hastato apice excavato, callis baseos 3 parallelis ramentis pluribus à fronte, columnâ apterâ basi bibrachiatâ.—*Cordillera near Loxa, flowering in July.*—Of this a single plant was found by Hartweg, with a flower-stem 9 feet long. It is very near *O. corynephorum* but the flowers are more than twice as large, the lip has quite a different form, and the column has two short spreading arms near the base, of which no trace is to be found either in Pœppig's figure or in Mathews' drawing in our possession.

13. O. microchilum *Bateman in Bot. Reg.* 1840, misc. 193—1843, t. 23; pseudobulbis lenticularibus brevibus monophyllis, folio oblongo carinato carnosissimo acuto quam scapus erectus versus apicem paniculatus quadruplò breviore, sepalis liberis lateralibus longiùs unguiculatis, petalis oblongis subundulatis retusis, labello duplò latiore quam longo lobo intermedio nano triangulari. lateralibus rotundatis planis, cristâ reniformi crenatâ, columnæ nanæ alis subulatis apice glandulosis. —*Guatemala.*—Flowers in a large branching glaucous panicle. Sepals dull brown. Petals dull purple, with a yellowish border. Lip spotted, crimson and yellow in the centre, pure white on the side segments. Wings of column yellow, pointed with purple.

THE AZURE PENTSTEMON.
(PENTSTEMON AZUREUS.)

[PLATE 72.]

THE AZURE PENTSTEMON.

(PENTSTEMON AZUREUS.)

A Hardy Herbaceous Plant, from CALIFORNIA, *belonging to the Order of* LINARIADS.

Specific Character.

THE AZURE PENTSTEMON.—Quite smooth, and somewhat glaucous. Leaves opposite, the lowermost oblong, stalked, the upper ones sessile, somewhat cordate, lanceolate, acute, occasionally split at the point, or incised at the edge. Racemes rod-like. Flower-stalks opposite, one-flowered, furnished with bracts. Sterile filament smooth.

Pentstemon azureus: *Bentham, Plantæ Hartwegianæ*, p. 327, No. 1879. *Journal of Horticultural Society*, vol. v., p. 144. *Our Volume* i., p. 56.

THE remarks on page 56 of our first volume have prepared our readers for a knowledge of this handsome perennial, which proves to deserve more attention at the hand of the gardener than was anticipated. It forms a fine tuft of slightly glaucous branches and leaves, producing in the autumnal months rods of bright azure blue flowers about two feet high.

Mr. Bentham compares it with *P. heterophyllus*, than which it is a very much finer species, readily distinguished by its blue flowers, growing singly and almost without stalks, in the axils of the upper leaves. It is also to be remarked that the foliage, although usually perfectly entire, exhibits every now and then a tendency to acquire divisions such as are

represented in the accompanying plate; the leaves are sometimes split at the point into two sharp lobes, and sometimes become incised, or even serrulate. Their general tendency is, however, to be wholly undivided.

Like the other species of this genus from California, the Azure Pentstemon is readily multiplied by either seeds or cuttings. Nor is it at all necessary to grow it in peat; on the contrary, it thrives perfectly in common garden soil.

GLEANINGS AND ORIGINAL MEMORANDA.

Anthurium splendidum. Amongst the many fine ornamental leaved varieties of Anthurium that have appeared within recent years, there are none with so distinct an appearance as this beautiful species. The leaves, which are about a foot across, are heart-shaped, with a deep sinus; the ground-colour of the upper surface is pale green. The well-defined nerves are banded on each side their entire length with deep green. But that which renders the plant most effective is that the whole portion of the leaves between the close network of lateral nerves is raised so as to give the surface an irregular puckered appearance. It is a very handsome plant, and is one of Mr. Bull's introductions from South America. It will require stove treatment in the matters of heat, moisture, and shade from the sun's rays when powerful.

Billbergia Porteana. The subject here noticed, although by no means a common plant, has been some time in cultivation, and now, when plants of the Bromeliaceous order have more attention paid to them by cultivators, so distinct a flowered species as this deserves recognition. It is from Brazil, and was first grown in Europe, we believe, by M. Morel, of Paris, an enthusiastic cultivator of these, as also of Orchids, several species of which, as well as one of the finest of all Billbergias, *B. Moreliana*, bear his name. The flowers of *B. Porteana* are of a drooping habit, as in many other Bromeliads. The conspicuous bright coloured bracts with which the peduncle is furnished constitute one of the chief attractions, being large and of a bright red colour; the petals are green, filaments violet-purple, which, combined with the colouring of the bracts, are very effective. The plant has flowered at Kew.

Acaulescent. Produced leaves five or six in a rosette, erect, lorate, three or four feet long, four inches broad at the base, narrower towards the extremity, green tinted on the back with claret-purple and marked with irregular transverse bands of white, marginal prickles deltoid cuspidate, ascending, small and moderately close. Peduncle about two feet long, terete, densely farinose, with several large lanceolate bright red spreading bract-leaves. Flowers without any special bracts, arranged in a lax drooping simple spike six or eight inches long with a farinose rachis. Ovary oblong, densely farinose; segments horny, deltoid, not more than half as long as the ovary. Petals green, lanceolate, above two inches long, rolling up spirally from the top when the flower begins to fade. Filaments violet-purple, shorter than the petals; anthers linear, basified, nearly an inch long. Ovary with numerous ovules in a cell; stigmas protruding beyond the anthers, twisting up spirally.—*Botanical Magazine*, 6670.

Dracæna Lindenii. This is not only one of the most distinct and elegant of all the Dracænas, but one of the handsomest and most desirable of fine-leaved plants that have appeared for some time. It is a Brazilian species, and has leaves somewhat broader and not quite so long as many of the coloured leaved section, but not so broad as the many

hybrids that have been raised from *D. Fraseri*. At the same time the leaves are thicker in texture than those of which *D. terminalis* and *D. Cooperi* may be taken as examples. They are also much more enduring; plants that have attained a height of five feet have their foliage quite fresh down to the bottom. The leaves are lanceolate-acuminate, the ground-colour bright green, with broad marginal bands of yellow, suffused with a shade of green. The foliage is elegantly recurved, like that of *D. Cooperi*.

Lælia Crawshayana. During recent years there has appeared a number of Orchids that have the unmistakable stamp of being hybrids, and that must have been produced naturally in their native wilds, which goes far to shake the belief hitherto entertained as to very many that have in times past been set down as species, but which have no more claim to be admitted as such than the plant under notice. This, as a matter of course, is a circumstance that concerns botanists much more than gardeners, who are satisfied with a plant if its flowers are sufficiently handsome and distinct from others already in cultivation. This variety is an acceptable addition to the Lælias, which already stand high in the ranks of cultivated Orchids. It has appeared in the collection of Mr. De B. Crawshay, Rosefield, Sevenoaks, Kent.

Bulbs of *Lælia albida* and *autumnalis* a little flattened. Leaves one to two, nearly those of *L. albida*. Peduncle long, as in *L. anceps*, but thinner, and with shorter and narrower sheaths; flowers two, with narrower shorter bracts than those of *L. anceps*, as well as narrower sepals and petals of a fine amethyst colour. Lip open near the slender column, with obtusangled antrorse side laciniæ and a cuneate abruptly blunt middle lacinia. Tips of the side laciniæ and the greater part of the middle lacinia fine purple. Disk, middle line yellow, with three keels, and fine divaricate dark purple paint over the lateral veins. Column slender, greenish-white outside, white front, with purple spots.—*Gardener's Chronicle*, N.S., vol. xix., p. 142.

Microglossa albescens. Now, when plants that will thrive in the open air are receiving more attention than at one time, this pretty species is worthy of notice. It is found in Sikkim, where it inhabits the Himalaya range at a high elevation, some nine to twelve thousand feet, but nevertheless it is not likely to be hardy in the northern parts of England. It grows at Kew under the shelter of a south wall, where we saw it in flower about the end of June, which, we believe, is its regular time of blooming. It is a distinct plant, its large heads of combined blue and yellow coloured flowers having a pretty appearance.

An undershrub, two to four feet high; branches slender, under side of leaves pubescent, whitish, three to five inches long, shortly petioled, lanceolate, acuminate, quite entire, nerves inconspicuous, base acute, light green above. Heads one-third of an inch in diameter, very numerous, in copiously branched axillary and terminal corymbiform peduncles; branches and peduncles slender. Involucre campanulate; inner bracts narrowly lanceolate, acuminate, outer shorter. Ligules pale blue, quite horizontal; disk flowers prominent, yellow. Achenes narrow, angled and strongly ribbed, pubescent; rather shorter than the red pappus.—*Botanical Magazine*, 6672.

Odontoglossum tripudians Harryanum. This is evidently a fine form of *O. tripudians*. It has appeared at Messrs. Veitch's Chelsea establishment, and adds one more to the host of fine plants which have made their début in this celebrated nursery.

Sepals and petals almost black inside, only tipped with light yellow and with a few similar marks at the base of the petals. The lip is light yellow, but nearly the whole base is covered with the richest mauve.—*Gardener's Chronicle*, N.S., vol. xix., p. 210.

INDEX TO VOLUME II.

[The *number* designates the page on which the description, gleaning, or original memorandum occurs. *Plate* signifies the coloured representation ; *fig.* the woodcut.]

Cassell & Company, Limited, Belle Sauvage Works, London, E C.

SELECTIONS FROM

MESSRS. CASSELL & COMPANY'S PUBLICATIONS.

PAXTON'S FLOWER GARDEN. *Vols. I. and II. By* PROFESSOR LINDLEY *and* SIR JOSEPH PAXTON. *Thoroughly Revised and brought down to the present date by Mr.* THOMAS BAINES, F.R.H.S., *with many entirely* NEW COLOURED PLATES *executed expressly for this Edition.* Price One Guinea each.

FAMILIAR WILD FLOWERS. FIRST, SECOND, THIRD, AND FOURTH SERIES. *By* F. E. HULME, F.L.S., F.S.A. *Each containing* 40 *full-page Coloured Plates, with Descriptive Text, and Scientific Summary.* Cloth gilt, 12s. 6d. each.

"The coloured figures are exquisitely beautiful; they are more like finished paintings than prints, and the appearance of the work is elegant throughout."—*Gardener's Magazine.*

FAMILIAR GARDEN FLOWERS. FIRST, SECOND, AND THIRD SERIES. *By* SHIRLEY HIBBERD. *Each containing* 40 *full-page Coloured Plates by* F. E. HULME. Cloth gilt, 12s. 6d. each.

"Refined in colouring and admirably true to nature are Mr. Hulme's drawings. . . Mr. Hibberd tells just what is needful respecting the history and culture of each plant, and amateur gardeners will be delighted with the volume."—*Graphic.*

EUROPEAN FERNS. *Their Form, Habit, and Culture.* By JAMES BRITTEN, F.L.S. *With* 30 *Fac-simile Coloured Plates, painted from Nature by* D. BLAIR, F.L.S. Demy 4to, cloth gilt, gilt edges, 21s.

"EUROPEAN FERNS is the most complete work on these favourite plants. The elegant plates are beautifully coloured, and the descriptive letterpress worthy of the illustrations."—*Guardian.*

THE FIELD NATURALIST'S HANDBOOK. *By the* Rev. J. G. WOOD *and* THEODORE WOOD. 5*s.*

INSECT VARIETY: *its Propagation and Distribution. By* A. H. SWINTON, *Member of the Entomological Society of London.* Cloth, 10s. 6d.

ANIMAL LIFE DESCRIBED AND ILLUSTRATED. *By* Prof. E. PERCEVAL WRIGHT, M.A., M.D., F.L.S. *Profusely Illustrated.* Cheap Edition, price 7s. 6d.

"We can honestly commend Dr. Wright's 'Animal Life' as instructive and trustworthy; it is, at the same time, full of interest."—*The Times.*

AMERICAN ORNITHOLOGY. *By* ALEXANDER WILSON *and* Prince CHARLES LUCIEN BONAPARTE. *With* 95 *full-page Coloured Plates, painted from Nature.* 1,500 pages, demy 8vo, bound in Roxburgh, £3 3s., in Three Vols.

SCIENCE FOR ALL. *Complete in Five Vols. Edited by* DR. ROBERT BROWN, M.A., F.L.S., *&c., assisted by Eminent Scientific Writers. Each containing about* 350 *Illustrations and Diagrams.* Extra crown 4to, cloth, 9s. each.

"FIGUIER" SERIES OF POPULAR SCIENTIFIC WORKS. Extra crown 8vo, cloth, bevelled boards, all fully Illustrated. 3s. 6d. each.

THE HUMAN RACE.
WORLD BEFORE THE DELUGE.
REPTILES AND BIRDS.
THE OCEAN WORLD.
THE VEGETABLE WORLD.
THE INSECT WORLD.
MAMMALIA.

CASSELL & COMPANY, LIMITED: LONDON, PARIS & NEW YORK.

SELECTIONS FROM

Messrs. Cassell & Company's Publications—*Continued.*

EVANGELINE. Édition de Luxe. *With 23 magnificent Original Illustrations by* FRANK DICKSEE, A.R.A., *15 of which are beautifully reproduced in Photogravure by Messrs. Goupil of Paris. The Work is printed on Whatman's hand-made paper, size 16½ in. by 12¼ in., the Wood Engravings being on real* China *paper, and is elegantly bound in cloth gilt.* Further particulars, with price, &c., may be obtained of any Bookseller.

PICTURESQUE EUROPE. *Complete in Five Volumes, each containing Thirteen exquisite Steel Plates from Original Drawings, and nearly* 200 *Original Illustrations drawn on the Wood, with Descriptive Letterpress.* Royal 4to, cloth gilt, gilt edges, £10 10s.; morocco, £26 5s.

Vols. I. and II. of PICTURESQUE EUROPE contain Great Britain and Ireland complete; Vols. III., IV., and V. describe the Continent. *** *Vol. I. Popular Edition, now ready,* 18s.

PICTURESQUE AMERICA. *Vols. I. and II., with* 12 *Steel Plates, and nearly* 200 *Original Wood Engravings in each.* Royal 4to, cloth gilt, gilt edges, £2 2s. each.

THE MAGAZINE OF ART. *New and Enlarged Edition. Vol. V., with an Etching as Frontispiece, and about* 400 *Illustrations,* cloth, gilt edges, 16s. Vol I. is now nearly out of print, and the price of of Vols. II., III., and IV, has been increased :—Vols. II. and III. to 15s. each, and Vol. IV. to £1 1s.

LONGFELLOW'S POETICAL WORKS. *Fine-Art Edition. Illustrated throughout with Original Engravings by some of the best English, American, and Continental Artists.* Royal 4to, handsomely bound in cloth gilt, £3 3s.

LANDSCAPE PAINTING IN OIL, A COURSE OF LESSONS IN. *By* A. F. GRACE, *Turner Medallist, Royal Academy. With Nine Reproductions in Colour, and numerous Examples Engraved on Wood.* Cloth, gilt edges, 42s.

PICTURES OF BIRD LIFE IN PEN AND PENCIL. *By the* Rev. M. G. WATKINS. *With Illustrations by* GIACOMELLI. 144 pages, imperial 4to, cloth gilt, gilt edges, 21s.

MOROCCO: ITS PEOPLE AND PLACES. *By* EDMONDO DE AMICIS. *Translated by* C. ROLLIN-TILTON. *With nearly* 200 *Original Illustrations.* Cheap Edition, demy 8vo, cloth, 7s. 6d.

THE GREAT PAINTERS OF CHRISTENDOM. *By* JOHN FORBES-ROBERTSON. *Illustrated throughout with carefully-executed Engravings of the Masterpieces of the several Painters.* Royal 4to, cloth elegant, £1 1s.

SKETCHING FROM NATURE IN WATER-COLOURS. *By* AARON PENLEY, *Author of "The English School of Painting in Water-Colours," &c.* With Illustrations in Chromo-Lithography, after Original Water-Colour Drawings. Super-royal 4to, cloth gilt, price 15s.

FIGURE PAINTING IN WATER-COLOURS. *With* 16 *Coloured Plates from Designs by* BLANCHE MACARTHUR *and* JENNIE MOORE. Cloth, 7s. 6d.

FLOWER PAINTING IN WATER-COLOURS. *First and Second Series, with* 20 Fac-simile Coloured Plates in each. *Carefully executed from Original Designs by* F. E. HULME, F.L.S., F.S.A. *With Instructions by the Artist. Interleaved with Drawing Paper.* Crown 4to, cloth gilt, 5s. each.

THE NATIONAL PORTRAIT GALLERY. *Complete in Four Volumes, each containing Twenty Portraits of our most Distinguished Celebrities, printed in the best style of Chromo-Lithography, with accompanying Memoirs, compiled from Authentic Sources.* Demy 4to, cloth, 12s. 6d. each.; or Two Double Vols. 21s. each.

THE INTERNATIONAL PORTRAIT GALLERY. *Containing Portraits in Colours, executed in the Best Style of Chromo-Lithography, of the Distinguished Celebrities of our Colonies and Foreign Nations, with Biographies from Authentic Sources. Complete in Two Volumes.* Demy 4to, cloth gilt, 12s. 6d. each.; or Two Vols in One, 21s.

THE LEOPOLD SHAKSPERE. *The Poet's Works, in Chronological Order, from the Text of* Professor DELIUS, *with* "Edward the Third" and "The Two Noble Kinsmen," *and an Introduction by* F. J. FURNIVALL. *Dedicated by permission to* H.R.H. PRINCE LEOPOLD. *With about* 400 *Illustrations.* 1,184 pages, small 4to, cloth, 6s.; cloth gilt, 7s. 6d. Can also be had in morocco and tree-calf bindings.

CASSELL & COMPANY, LIMITED: LONDON, PARIS & NEW YORK.

SELECTIONS FROM

Messrs. Cassell & Company's Publications—Continued.

THE ILLUSTRATED BOOK OF THE DOG. *By* VERO SHAW, B.A. Cantab. *With* 23 Fac-simile Coloured Plates *(drawn from Life expressly for the Work) of typical specimens of the various Breeds of Dog now in existence, and with numerous Wood Engravings. Embracing a full Description of* EVERY KNOWN BREED OF DOG, *with the Standard by which he can be judged.*
Demy 4to, cloth bevelled, gilt edges, 35s.; half-morocco, £2 5s.

DAIRY FARMING. *By* Prof. SHELDON, *assisted by Eminent Authorities. Illustrated with* 25 *Coloured Plates, specially prepared for this Work, and numerous Wood Engravings.*
Demy 4to, cloth, gilt edges, price 31s. 6d.; or in half-morocco, £2 2s.

THE BOOK OF THE HORSE. *By* S. SIDNEY. ENTIRELY NEW AND REVISED EDITION *brought down to Date. Illustrated with* 25 Fac-simile Coloured Plates *from Original Paintings, and upwards of* 100 *Wood Engravings.*
Demy 4to, 600 pages, cloth, gilt edges, 31s. 6d.; half-morocco, gilt edges, £2 2s.

THE BOOK OF POULTRY. *By* LEWIS WRIGHT. *With* 50 *Coloured Plates of Celebrated Prize Birds of Every Breed, painted from Life, and with numerous Engravings on Wood.*
Demy 4to, 600 pp., cloth bevelled, gilt, 31s. 6d.; morocco, gilt edges, £2 2s.

THE BOOK OF PIGEONS. *By* ROBERT FULTON. *Edited and Arranged by* LEWIS WRIGHT. *Illustrated with* 50 *life-like Coloured Plates, painted expressly for this Work, and with numerous Engravings on Wood.* Demy 4to, cloth bevelled, gilt edges, 31s. 6d.; half-morocco, gilt edges, £2 2s.

CANARIES AND CAGE-BIRDS, THE ILLUSTRATED BOOK OF. *With* 56 *exquisite Fac-simile Coloured Plates, from Paintings made expressly for the Work.*
Demy 4to, cloth, gilt edges, 35s.; half-morocco, £2 5s.

CASSELL'S NEW NATURAL HISTORY. *Edited by* Prof. P. MARTIN DUNCAN, M.B., Crown 4to, cloth, 9s. each.

WILD ANIMALS AND BIRDS; THEIR HAUNTS AND HABITS. *By* Dr. ANDREW WILSON. *Illustrated throughout with Striking and Characteristic Engravings.* Demy 4to, cloth gilt, 7s. 6d.

THE SIMPLE AILMENTS OF HORSES; THEIR NATURE AND TREATMENT. *By* W. F., *late Principal and Lecturer on Veterinary Surgery, Edinburgh Veterinary College.* 240 pages, crown 8vo, cloth, price 5s.

THE PRACTICAL POULTRY KEEPER. *A Standard Guide to the Management of Poultry, for Domestic Use, the Market, or Exhibition. By* L. WRIGHT. With numerous Illustrations, cloth, 3s. 6d.; or with 8 New Chromo Plates, 5s.

THE PRACTICAL PIGEON KEEPER. *By* LEWIS WRIGHT, *Author of "The Illustrated Book of Poultry," "The Practical Poultry Keeper," &c. With numerous Illustrations.* Crown 8vo, cloth gilt, 3s. 6d.

THE PRACTICAL RABBIT KEEPER. By CUNICULUS. *With numerous Illustrations.* Crown 8vo, cloth gilt, 3s. 6d.

THE PRACTICAL KENNEL GUIDE. *With Plain Instructions how to Rear and Breed Dogs for Pleasure, Show, and Profit. By* GORDON STABLES, M.D., C.M., R.N. Price 2s. 6d.

THE DOG. *By* IDSTONE. *With Simple Directions for his Treatment, and Notices of the Best Dogs of the Day, their Breeders and Exhibitors.* Cloth, 2s. 6d.

THE A B C POULTRY BOOK. *By* MRS. M. A. WILSON. 128 *pages.* Cloth limp, 1s.

SELECTIONS FROM

Messrs. Cassell & Company's Publications—Continued.

OLIVER CROMWELL: THE MAN AND HIS MISSION. *By* J. ALLANSON PICTON, *Author of "The Mystery of Matter," &c. &c. With Steel Portrait.* Demy 8vo, cloth, 7s. 6d.

THE HISTORY OF THE YEAR. *A Complete Narrative of the Events of the immediate past Year, full, popular, and accurate.* Cloth, 6s.

FOUR YEARS OF IRISH HISTORY (1845—49). *A Sequel to "Young Ireland." By* Sir GAVAN DUFFY, K.C.M.G. 21s.

MODERN EUROPE, A HISTORY OF. *By* C. A. FYFFE, M.A., Fellow of University College, Oxford. Vol. I., demy 8vo, cloth, 12s.

THE LIFE OF THE RIGHT HON. W. E. GLADSTONE, M.P., D.C.L. *By* GEORGE BARNETT SMITH. *Jubilee Edition, with Portrait,* 1s.

ENGLAND: ITS PEOPLE, POLITY, AND PURSUITS. *By* T. H. S. ESCOTT. One Volume, demy 8vo, cloth. *Cheap Edition,* 7s. 6d.

THE ENCYCLOPÆDIC DICTIONARY. *A New and Original Work of Reference to all the Words in the English Language, with a full Account of their Origin, Meaning, Pronunciation, and Use.* Four Divisional Vols. are now ready, each containing 384 pages, extra crown 4to, cloth 10s. 6d. each; or the Four Vols. bound in Two, half-morocco, 21s. each.

THE EARLY DAYS OF CHRISTIANITY. *By the* Ven. ARCHDEACON FARRAR, D.D., F.R.S. *Eighth Thousand.* Two Vols., demy 8vo, 24s.; morocco, £2 2s.

THE LIFE AND WORK OF ST. PAUL. *By the* Ven Archdeacon FARRAR, D.D., F.R.S., *Chaplain in Ordinary to the Queen. 19th Thousand.* Two Volumes, demy 8vo, cloth, 24s.; morocco, £2 2s.

THE LIFE OF CHRIST. *By the* Ven. Archdeacon FARRAR, D.D., F.R.S. *Popular Edition,* One Vol., cloth, 6s.; cloth, gilt edges, 7s. 6d.; Persian morocco, gilt edges, 10s. 6d.; tree calf, 15s. *Library Edition,* Two Vols., demy 8vo, cloth, 24s.; morocco, £2 2s. *Illustrated Edition,* with about 300 Original Illustrations from authentic sources. Extra crown 4to, cloth, gilt edges, 21s.

AN OLD TESTAMENT COMMENTARY FOR ENGLISH READERS. *Edited by the* Right Rev. C. J. ELLICOTT, D.D., *Lord Bishop of Gloucester and Bristol.* VOL. I., extra crown 4to, price 21s., contains—Genesis to Numbers. Vol. II., price 21s., contains—Deuteronomy to Samuel II. Vol. III., price 21s., contains Kings I. to Job.

This work will be completed in Five Volumes price, 21s. each.

A NEW TESTAMENT COMMENTARY *for English Readers. Edited by the* Rt. Rev. C. J. ELLICOTT, D.D., *Lord Bishop of Gloucester and Bristol.* VOL. I. contains the Four Gospels. Price £1 1s. VOL. II. contains the Acts of the Apostles, Romans, Corinthians, Galatians. Price £1 1s. VOL. III. contains the remaining Books of the New Testament. Price £1 1s.

THE CROWN BIBLE. *Containing* 900 *Original Illustrations, specially executed for this Edition from Original Photographs and other authentic sources. Printed in clear readable type, with References.* Crown 4to, strongly bound in cloth, 7s. 6d.; Patent morocco, gilt edges, 9s.; Persian morocco, antique red and gilt edges, 12s. 6d.

ENGLAND, CASSELL'S HISTORY OF, from the Earliest Period to the Present Time. *With about* 2,000 *Illustrations.* Extra crown 4to, 5,500 pp. New Toned Paper Edition. Complete in Nine Volumes, cloth, 9s. each, LIBRARY EDITION, Nine Vols., brown cloth, gilt tops, £4 10s.

☞ ***Complete Catalogues of Cassell & Company's Publications,*** *containing a List of* Several Hundred Volumes, *including* ***Bibles*** *and* ***Religious Works, Fine-Art Volumes, Children's Books, Dictionaries, Educational Works, History, Natural History, Household*** *and* ***Domestic Treatises, Hand-Books*** *and* ***Guides, Science, Travels,*** *&c., together with a Synopsis of their numerous* Illustrated Serial Publications, *sent post free on application to* CASSELL & COMPANY, LIMITED, *La Belle Sauvage Yard, Ludgate Hill, London.*

CASSELL & COMPANY, LIMITED: LONDON, PARIS & NEW YORK.